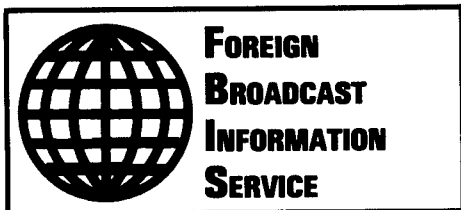
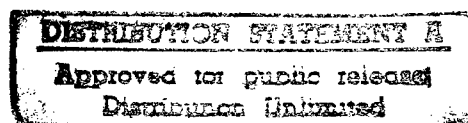


JPRS-TAC-93-017  
12 August 1993



# ***JPRS Report***

---



# **Arms Control**

---

DTIC QUALITY INSPECTED 2

19980115 072

# Arms Control

JPRS-TAC-93-017

## CONTENTS

12 August 1993

### CHINA

Protest Against U.S. Over Ship Carrying Chemicals .....	1
U.S. 'Bullyism' Cited [XINHUA, 7 Aug 93] .....	1
Spokesman Says U.S. 'Denying Facts' [AFP, 10 Aug 93] .....	1

### EAST ASIA

#### JAPAN

Hosokawa 'May Clarify' Position on Extending NPT in September UN Speech [KYODO, 11 Aug 93] .....	2
---	---

#### SOUTH KOREA

Foreign Minister Notes Change of Policy on DPRK Nuclear Issue [YONHAP, 10 Aug 93] .....	2
---	---

#### TAIWAN

Navy Plans To Buy Hsiung-feng-2 Missiles [LIEN HO PAO, 2 Aug 93] .....	2
--	---

### EAST EUROPE

#### YUGOSLAVIA

Slovene Government Intends To Purchase Arms 'Next Year' [BORBA, 5 Aug 93] .....	3
---	---

### NEAR EAST & SOUTH ASIA

#### INDIA

Aerodynamic Code Called 'Breakthrough' in Missile Technology [THE NATION, 3 Aug 93] .....	4
U.S. Said Pursuing Two-Track Policy on India [S. Nihal Singh; THE HINDUSTAN TIMES, 27 Jul 93] .....	4

#### IRAQ

Radio Cites Discovery of 'Chemical Materials' Storage Site [Voice of Iraqi Kurdistan; 10 Aug 93] .....	5
---	---

#### SAUDI ARABIA

Cabinet Approves Ban on Use, Development, Storage of CW .....	5
---	---

### COMMONWEALTH OF INDEPENDENT STATES

#### GENERAL

Russia Denies 'Tectonic Weapons' Allegations [ZELENYI MIR, Jul 93] .....	6
Joint Control of Nuclear Forces Essential [V. Kocherov; ROSSIYSKAYA GAZETA, 4 Aug 93] .....	6

#### STRATEGIC ARMS REDUCTIONS

'Text' of Government Statement on Ukraine's Nuclear Policy [ITAR-TASS, 4 Aug 93] .....	7
PM Kuchma on Control of Nuclear Weapons, Sevastopol Status [Moscow radio, 9 Aug 93] .....	8
Ukrainian Defense Minister Briefs Press on Outcome of U.S. Visit .....	8
Significant Importance Attached to Memorandum [UNIAR, 2 Aug 93] .....	8
More on Morozov's Briefing [I. Pogodina; IZVESTIYA, 4 Aug 93] .....	8
Kravchuk on Nuclear Arms, Other Issues [Leonid Kravchuk interview; Kiev radio, 29 Jul 93] .....	9
Ukraine's Pavlychko on Possible Ratification of START I Treaty [UNIAN, 30 Jul 93] .....	11
Pavlychko Discusses Nuclear Weapons, Fleet [C. Svitak, T. Zahradnicek; CESKY DENIK, 7 Aug 93] .....	11

Ukrainian Arms Control Official Reiterates Position on START .....	12
Need for Reductions [UNIAN, 10 Aug 93] .....	12
Further Comments [O. Kyrychenko; UKRINFORM, 10 Aug 93] .....	13
Ukraine: U.S. 'Softening' Stance on Nuclear Missiles [V. Drobkov; PRAVDA, 31 Jul 93] .....	13
Ukraine: West 'Seriously Concerned' Over Nuclear Missile Control [Moscow tv, 4 Aug 93] .....	14
Ukraine: Study Views Attitudes Toward Nuclear Weapons .....	14
[V. Pylypenko; HOLOS UKRAYINY, 6 Aug 93] .....	14
Ukraine Accused of Selling Uranium at 'Dumping' Prices .....	15
[M. Kolesnichenko; ITAR-TASS, 11 Aug 93] .....	15
Ukraine Space Agency Official on Space Program, Tasks .....	16
[Andriy Zhalko-Tytarenko interview; MOLOD UKRAYINY, 3 Aug 93] .....	16
Moscow Urges Ukraine To Review Stance on Nuclear Arms .....	17
[ROSSIYSKAYA GAZETA, 6 Aug 93] .....	17
Background to Moscow Protest on Ukraine N-Arms Eyed [V. Litovkin; IZVESTIYA, 6 Aug 93] ..	18
Kozyakov on Ukraine's Attitude on its Nuclear Weapons .....	18
[V. Kozyakov; Moscow radio, 6 Aug 93] .....	18
Renegotiation of START II Terms Urged [G. Khromov; KRASNAYA ZVEZDA, 29 Jul 93] .....	19
Russia: Surface-to-Air Missiles To Be Dismantled in Far East [Khabarovsk radio, 29 Jul 93] .....	20
Supsov Dep Gen Tolupko: N-Arms To Buy Time To Build Modern Defense .....	20
[V. Tolubko; NARODNA ARMIYA, 9 Jul 93] .....	20
Union Official Says Grievances Could Halt Scrapping of Weapons [PRAVDA, 6 Aug 93] .....	23
Japan To Create 'Disarmament Aid Committee' [NEZAVISIMAYA GAZETA, 3 Aug 93] .....	23
<b>SPACE ISSUES</b>	
Russian Space Industry Faces Underfunding, Mismanagement .....	23
Could Cease Within 2 Years [NOVAYA YEZHEDNEVNAYA GAZETA, 6 Aug 93] .....	23
Research Prospects, International Cooperation [Moscow radio, 5 Aug 93] .....	24
Work Continues on Mir Space Station .....	24
Medical Experiments, Onboard Equipment Check [ITAR-TASS, 30 Jul 93] .....	24
Vibration Disturbances, Telescope Checks [ITAR-TASS, 10 Aug 93] .....	24
Mir Station, Progress M-17 Ferry To Undock 11 Aug [ITAR-TASS, 11 Aug 93] .....	25
Space Community Divided Over Future of Buran Shuttle [A. Gerasimov; Moscow tv, 25 Jul 93] ..	25
Russian-U.S. Space Cooperation Plans Reported [V. Nadein; IZVESTIYA, 29 Jul 93] .....	25
PRC Hopes To Join Russia in Space Exploration [Pavel Spirin; ITAR-TASS, 4 Aug 93] .....	26
Russian Space Agency Interested in Cooperation With All Countries .....	26
[V. Romanenkova; ITAR-TASS, 6 Aug 93] .....	26
Russia Seeks Cooperation on Space With India .....	26
[S. Staroselskiy, L. Timofeyev; ITAR-TASS, 30 Jul 93] .....	26
Russian Space Forces Preparing To Exhibit Range of Equipment .....	26
[Semen Ivanov; ITAR-TASS, 31 Jul 93] .....	26
<b>CONVENTIONAL FORCES IN EUROPE</b>	
Plasma Cutting Aids Destruction of Aircraft [V. Fatigarov; KRASNAYA ZVEZDA, 28 Jul 93] .....	27
Conventional Weapons Dismantling Continues in Belarus [BELINFORM, 4 Aug 93] .....	27
<b>CHEMICAL AND BIOLOGICAL WEAPONS</b>	
Yeltsin Orders Establishment of Chemical Arms Commission [ITAR-TASS, 10 Aug 93] .....	28
<b>WEAPONS CONVERSION</b>	
Problems, Risks in Nuclear Sub Dismantling [Moscow tv, 6 Aug 93] .....	28
<b>NUCLEAR TESTING</b>	
Ukraine Welcomes U.S., Russian Moratorium on Nuclear Testing [Kiev radio, 30 Jul 93] .....	30
Anniversary of Limited Test Ban Treaty Noted [ROSSIYSKAYA GAZETA, 6 Aug 93] .....	30

## Protest Against U.S. Over Ship Carrying Chemicals

### U.S. 'Bullyism' Cited

OW0708160893 Beijing XINHUA in English 1554 GMT  
7 Aug 93

[Text] Beijing, August 7 (XINHUA)—A Chinese Foreign Ministry official urgently summoned Stapleton Roy, U.S. Ambassador to China, to the Foreign Ministry and lodged strong protest against the United States for its groundless accusation that a Chinese cargo-liner "Yinhe" was carrying dangerous chemicals and for its interrupting the ship's normal commercial transportation activities.

Qin Huasun, assistant foreign minister, said that since July 23, the U.S. side made repeated representations with the Chinese side arguing that the U.S. obtained information that a Chinese cargo-ship "Yinhe" was carrying a shipment of thiodiglycol and thionyl chloride, which left the port of Dalian around July 15 for the Middle East.

The Chinese side had solemnly stated that in adhering to the provisions of the chemical weapons convention, China forbids the export of such chemicals, he said.

However, the U.S. side chose to ignore China's statement and took arbitrary action that prevented the Chinese ship from reaching her scheduled ports, Qin said.

He said that as a result, the ship was forced to be adrift on the high sea, subjected to such extraordinary activities of interruption and coercion, including pursuit and photography by U.S. warships and military aircraft on the high sea.

Qin noted that earnest investigations conducted by the Chinese side had shown that the U.S. information had been completely unfounded regarding the ship's voyage schedule, departure time, ports of arrival and the alleged shipment of the above mentioned chemicals.

The Chinese side had presented the facts on numerous occasions to the U.S. side, proposed constructive solutions including the joint inspection by Chinese personnel and local customs officials of the cargo in question at the ship's first unloading port in the Middle East, and demanded the U.S. side stop all interruptive action to ensure the Chinese ship reaching her scheduled ports and unload, Qin said.

However, he said, the Chinese ship has not to this day received permission to dock in and is faced with extreme difficulties.

He pointed out that all these have been nothing but the making by the U.S. side in its irresponsible action based on fabricated information.

Qin emphasized that it is a violation of international law and the norms for international relations to take actions against another sovereign state on the basis of fabricated information.

The U.S. side should be held fully responsible for all consequences arising from the fact that in disregard of the repeated clarifications of facts by the Chinese side, the U.S. side chose to cling to their unfounded information in an attempt to sow discord in the friendly relations between China and other countries concerned and refused to eliminate the serious aftermath of its own action, he added.

Qin said that the unwarranted acts of the U.S. had tarnished China's international reputation, interrupted the routine voyage of the Chinese ship, damaged the normal relations and trade exchange among sovereign states, caused great economic losses to the Chinese side, subjected the safety of the Chinese ship and her crew to grave risks and cast new shadows to the relations between China and the U.S.

Qin solemnly stated that the Chinese side lodges a strong protest against the U.S. side over the latter's act of utterly unjustifiable bullyism, and China strongly demands once again the U.S. side take immediate measures to ensure "Yinhe" ship to enter her scheduled ports and unload.

The Chinese side also demands that the U.S. side compensate for all losses and be held responsible for all consequences arising from its completely unwarranted action and undertake not to engage in any further acts that interrupt the normal voyage and commercial activities of Chinese ships, Qin said.

### Spokesman Says U.S. 'Denying Facts'

HK1008115393 Hong Kong AFP in English 1141 GMT  
10 Aug 93

[Excerpt] Beijing, Aug 10 (AFP)—China said Tuesday the United States was "denying facts" by rejecting Beijing's accusations that it had obstructed a Chinese ship it groundlessly believed to be carrying chemical weapon elements to Iran.

"What the U.S. Government should do now is to take measures immediately to solve the incident created single-handedly by the U.S. itself instead of denying facts," a foreign ministry spokesman said. [passage omitted]

## JAPAN

**Hosokawa 'May Clarify' Position on Extending NPT in September UN Speech***OW1108123893 Tokyo KYODO in English 1230 GMT 11 Aug 93*

[Text] Tokyo, Aug. 11 KYODO—Prime Minister Morihiro Hosokawa may clarify Japan's position on extending the Nuclear Non-proliferation Treaty (NPT) in a speech before the U.N. General Assembly in September, a senior Foreign Ministry source said Wednesday [11 August].

The source warned that if a domestic consensus is not rapidly achieved on whether to support indefinitely extending the NPT beyond 1995, it will fuel fears in neighboring countries that Japan is reserving the right to acquire nuclear weapons.

Hosokawa said at a press conference Tuesday it is "important for Japan to strive in the direction of indefinite extension."

Japan's present position is that it supports the treaty's extension for "as long as possible," with the option of an indefinite extension.

Officials said the government must take into consideration various opinions. Hiroshima Mayor Takashi Hiraoka, for example, has warned indefinite extension might perpetuate the supposed right of the five nuclear powers to possess nuclear weapons.

Article 6 of the NPT obliges signatory nuclear weapon states to strive for further nuclear disarmament. Questions have arisen as to whether that obligation has been sufficiently fulfilled to merit indefinite extension.

Foreign Ministry Spokesman Terusuke Terada said Tuesday the idea of Japan wanting to preserve a nuclear option is invalid as the government adheres to the long-running policy of eschewing possession, development or the presence of such weapons in its territory.

Japan balked at attempts at last month's group of seven summit in Tokyo to declare unanimous endorsement of indefinite NPT extension.

## SOUTH KOREA

**Foreign Minister Notes Change of Policy on DPRK Nuclear Issue***SK1008073193 Seoul YONHAP in English 0714 GMT 10 Aug 93*

[Text] Seoul, Aug. 10 (YONHAP)—South Korea has "exhausted" its store of carrots in trying to induce North Korea to come clean of nuclear suspicion and will rely more on sticks from now, Foreign Minister Han Sung-chu said Tuesday.

The foreign minister's remarks indicates a clear turn in South Korea's policy on the issue. Seoul had consistently emphasized a carrot-and-stick strategy, but had stressed inducements such as high-level negotiations between Pyongyang and Washington.

Chang Chae-yong, the director-general of the American Affairs Bureau, who left for Washington on Tuesday, would clear up this point with U.S. officials and map out future steps, Han said.

"The carrots served two purposes. They gave North Korea the justification to compromise with the international community, and they gave us the justification to seek punitive measures when all inducements were exhausted," he said.

North Korea jolted the world community when it announced March 12 it was leaving the Nuclear Nonproliferation Treaty (NPT) in retaliation for demands by the International Atomic Energy Agency (IAEA) to see two key suspected sites.

After two rounds of discussion with the United States in an unprecedented series of direct talks, North Korea suspended its NPT withdrawal and got Washington to promise assistance in nuclear reactor technology.

"We gave everything we could give at the last round of North Korea-U.S. high-level talks," Han said. "Now it's time to show Pyongyang what sticks are in the store."

The decision on playing North Korea's nuclear card apparently had passed back to supreme leader Kim Il-song from his heir and son, Kim Chong-il, Han added.

North Korea made a point of saying that the younger Kim had made the decision to leave the NPT, but told the United States in the last round of their high-level talks that the older Kim had personally asked for assistance with nuclear reactor technology, indicating a transfer of final authority.

## TAIWAN

**Navy Plans To Buy Hsiung-feng-2 Missiles***OW1008033193 Taipei LIEN HO PAO in Chinese 2 Aug 93 p 1*

[Text] According to authoritative military sources, the Navy plans to buy A-3 Lui-meng aircraft, arm it with Hsiung-feng-2 (air to surface) missiles, and use it as an attack plane against surface ships. According to a tentative plan, the Navy will also take over S-2T antisubmarine planes from the Air Force. At the same time, the Navy is appraising the feasibility of basing A-3 Lui-meng aircraft and S-2T antisubmarine aircraft on the Ilan airfield. The tentative plan shows that the Navy wants to exercise a unified command of the sea-control force.

A-3 Lui-meng aircraft is the "sister plane" of AT-3 trainer. Lui-meng has one seat, while the trainer is a two-seater. The Aviation Development Center produced two Lui-meng aircraft which were openly shown during "Han Kuang II" Exercise in 1984. Since then, the center has discontinued the mass production plan for the aircraft.

The Navy wants to have its own air strike force because air strikes against surface ships have proven considerably effective during sea battles in recent years, such as the Falkland war. Considering such factors as the budget, the Navy thinks that it is feasible to build its air strike force

with Lui-meng aircraft because it is cheaper. As for armament, the Navy is quite satisfied with the performance of the newly developed Hsiung-feng-2 missiles. Therefore, its concept is to arm the Lui-meng aircraft with Hsiung-feng-2 missiles to strengthen its capability of defending the sea.

On the question of antisubmarine aircraft being currently under the Air Force control, a high-level military figure pointed out that the main task of the antisubmarine aircraft is to deal with submarines, and so, it is a development trend for the Navy to take over the command of antisubmarine aircraft to meet operational needs. On the question of whether the Navy is capable of personnel training and logistic support and maintenance for both Lui-meng aircraft and antisubmarine aircraft, the high-level military person emphasized: Although S-70C antisubmarine helicopter is not a user-friendly plane, "isn't the Navy doing a good job in using it?" Of course,

S-70C is not a fixed-wing plane. However, if the Navy has the determination, it absolutely can do a very good job.

There are different views in the military on whether the production of Lui-meng aircraft should be resumed to meet the Navy's purchase plan. Some Air Force personnel say: In fact, "the Air Force has endured many sufferings" in using AT-3's. This is why we want to lease 40 T-38 advanced trainers from the United States. So, we must carefully consider the question of whether the production of Lui-meng aircraft should be resumed. Besides, the low-speed Lui-meng aircraft is not necessarily capable of attack against surface ships. F-16 and Mirage-2000 fighters ordered by the Air Force can be armed with air-to-surface missiles.

Nevertheless, some naval personnel hold that it is necessary for the Navy to have its own air strike force because of the Navy's unique characteristics and its sea-control and antisubmarine tasks.

## EAST EUROPE

### YUGOSLAVIA

#### Slovene Government Intends To Purchase Arms 'Next Year'

AU1008065193 Belgrade BORBA in Serbo-Croatian  
5 Aug 93 p 6

[Unattributed report: "The Government's Highly Confidential Fund"]

[Text] Ljubljana—Through a special law classified "highly confidential," the Slovene Government plans to purchase arms for the state's defense needs in such a way that over the next 8 years, 1 percent of the national income will be allocated from the state budget.

The purchasing of arms is supposed to begin next year, while according to unconfirmed information, Slovenia

plans to buy six airplanes, two or three helicopter squadrons, one battleship, and one anti-aircraft rocket launching system for medium altitudes.

In order to purchase these new arms, the Slovene Army has asked that the UN arms embargo be lifted. Slovenia submitted an official request for lifting the embargo as early as several months ago. Meanwhile, several international networks dealing in and smuggling arms for Croatia and Bosnia-Herzegovina have been exposed. One of the cases has exposed perhaps the greatest illegal arms deal of the past decades in Europe—150 tons of arms were stored in hangars at Maribor Airport, waiting almost a year to be delivered to the Bosnian Muslims.

Some Slovene media have announced that the purchase of arms might begin before the embargo is lifted because Pilatus planes have civil licenses.

## INDIA

**Aerodynamic Code Called 'Breakthrough' in Missile Technology**

BK0308141593 Islamabad *THE NATION* in English  
3 Aug 93 pp 1, 6

[Text] New Delhi—In a major breakthrough, India has evolved an aerodynamic code for a wide range of missiles including the most advanced of them all, the Cruise missile.

The development will make it possible to design a number of missiles like large ballistic, small heat-seekers and even Cruise missiles. With the new code, it will also be possible to shorten the time taken for a new missile development by at least one-third.

According to scientific sources, the comprehensive aerodynamic code enables rapid estimation of aerodynamic forces acting on the missile's surface when in flight. It is called the Missile Aerodynamic Design Manual.

Indian defence scientists describe this new evolvment as the most significant development in the Indian missile calendar since the first flight of the intermediate range ballistic missile, Agni.

It is learnt that some details of the project classified as "secret" were revealed to select group of people during a recent symposium at National Aerospace Laboratory (NAL).

It may be recalled that the Cruise missile was the most widely used US weapon during the Gulf War and the latest attack on the Iraqi intelligence headquarters was also launched by a Cruise missile "tomahawk." Its technology is a closely-guarded secret with only a few countries possessing it.

While it is believed that the Indian guided missile programme also includes a Cruise missile. There has been no official confirmation. Its aerodynamic code, contained in the new missile aerodynamic design manual is a confirmation that such a project has been undertaken.

Missile experts say the most laborious aspect of any aerospace project is the time taken to study the effects of wind on a projectile. The movement of a missile is dependent on wind flow and scientists work out an optimum surface design that can cruise through the most difficult wind conditions.

This is a complex process involving several hundred man-hours using most advanced and powerful computers. According to reports available here at least 25 different types of missile can be assembled with the new missile prediction code.

The authoritative Jane's defence review on missiles lists an Indian Cruise missile programme with a 600 km range and 450 kg warhead. The US has been crying wolf over missile proliferation in the subcontinent and has placed India at the top of a list of nations that are "potential missile threats to the United States."

**U.S. Said Pursuing Two-Track Policy on India**

BK0708101993 Delhi *THE HINDUSTAN TIMES*  
in English 27 Jul 93 p 11

[By S. Nihal Singh]

[Excerpts] A host of testimonies presented to the U.S. Congress, Mr. John Malott's blunt speaking visit to India, and the successful American effort to force Russia to annul the rocket deal point to the Clinton administration's two-track policy towards India. It is supportive of Indian economic reform policies and helpful with loans from international institutions. On the other track, it will continue to pursue relentlessly its agenda to force New Delhi to follow its non-proliferation goals and use human rights as a lever to try to get India to conform to American strategic and political objectives.

Contrary to our experience of the Carter presidency, India still subscribes to the myth of U.S. Democratic administrations being more empathetic with India. The Clinton administration is showing yet again that this is not so, and to the extent Washington is giving salience to non-proliferation and human rights issues, it spells trouble for the Indo-American relationship. [passage omitted]

Americans will continue to mount pressure on India to subscribe to the nuclear non-proliferation treaty in substance, if not in form, and have overruled Indian objections to a regional nonproliferation arrangement. They suggest that New Delhi's concerns on China and Kazakhstan can best be met through a five-power meeting. Washington has refused to define China's role and status in such a meeting although it is an acknowledged supplier of nuclear material and missiles to Pakistan.

While the United States is not willing to address the question of Israel's nuclear arsenal, it believes it can tame India and Pakistan. Washington must show indulgence to China because it is a nuclear weapon power, offers a vast market and is a strategic factor in U.S. Pacific policies. American anti-Chinese rhetoric therefore dissolves into granting of the most favoured nation treatment in trade as candidate Clinton readjusts his sights to the demands of the U.S. presidency. [passage omitted]

There are three sets of problems India has with the United States: trade and related issues, questions of nuclear and missile non-proliferation, and political issues such as those concerning human rights and how to cope with Kashmir. The first set of issues, irritating as it can be, is the least dangerous because it concerns the larger world as well and forms a common strand in the policies of many developed and developing countries. Besides, the Indian economic reform process is continuing and U.S. investments and the volume of Indo-American trade are bound to grow.

Issues on nuclear and missile non-proliferation are the most contentious because the U.S. has set its heart on capping Indian and Pakistani nuclear capabilities.

Apart from more general goals, the justification offered is that Indo-Pakistani animosities and the Kashmir question make it conceivable that a war on the subcontinent could bring nuclear weapons into play. At the same time, Americans would perhaps argue that the question of Israel's nuclear weapons could be addressed only after the peace

negotiations are successfully concluded. The difference really is that the U.S. has never been "even-handed" in its relations with Israel and its Arab neighbours.

New Delhi needs to think afresh on its opposition to the five-power meeting, the five to comprise the U.S., Russia and China, in addition to India and Pakistan. Although the proposal was first broached by Pakistan, its American authorship has been subsequently acknowledged. The danger, of course, is that three of the five could gang up on India for tactical reasons and Russia, as New Delhi has found to its cost, is a weak reed.

On the other hand, it could give India the opportunity to show how absurd a proposition it is to give a guardianship role to China, which, by the reckoning of American experts, is Pakistan's main supplier of nuclear and missile technology. And what rationale can there be to leave out Kazakhstan, a nuclear weapon power, from such a meeting? [passage omitted]

## IRAQ

### Radio Cites Discovery of 'Chemical Materials' Storage Site

JN1008201693 (Clandestine) Voice of Iraqi Kurdistan  
in Arabic 1645 GMT 10 Aug 93

[Text] During current work to rebuild the (Wali Hayri) village in the Kifri area by the KRO [expansion not given]

organization, a swamp was found with water that looked abnormal. After carrying out tests, it was discovered that the site was the place where the 51st Division of the regime was positioned before the [Kurdish] uprising and that chemical materials were hidden there.

## SAUDI ARABIA

### Cabinet Approves Ban on Use, Development, Storage of CW

LD0908205493 Riyadh SPA in Arabic 1740 GMT 9 Aug 93

[Excerpts] Jeddah, 9 Aug [dateline as received]—Under the chairmanship of the Custodian of the Two Holy Mosques King Fahd Bin- 'Abd al-'Aziz Al-Sa'ud, the Council of Ministers held its weekly session this afternoon of Monday 9 August 93 at al-Salam Palace in Jeddah.

The Information Minister 'Ali al-Sha'ir made a statement to SPA in which he said:[passage omitted]

The Cabinet then took up the other subjects on the agenda and these include:

1. Approval of the agreement on banning the development, storage and use of chemical weapons, the destruction of those weapons as per the formula attached to the decision. A royal decree has been drawn up concerning this. [passage omitted]



## GENERAL

**Russia Denies 'Tectonic Weapons' Allegations**

93P50250A Moscow ZELENYY MIR in Russian No 14,  
Jul 93 [signed to press 14 Jul 93] p 1

[Unattributed item under "Eko-Press" rubric: "The Defense Ministry Is Not Developing 'Tectonic Weapons'"]

[Text] The Russian military department made this declaration in connection with reports which have appeared in some mass information media about research, supposedly being carried out on behalf of the Russian Federation Defense Ministry, to develop so-called "tectonic weapons," and about experiments to this end involving the initiating of earthquakes in certain regions of the Earth with the help of nuclear explosions.

In particular, it is asserted in some mass information media that the Russian Federation Defense Ministry seismological laboratory, located in Eshery (Abkhazia), is an important "tectonic weapons" development facility. In this connection, it has been noted that one of the reasons why Russian troops have not been withdrawn from Abkhazia is the special importance of this laboratory and the enormous losses which its destruction would entail. But tying the question of the withdrawal of Russian troops from Abkhazia with the need to preserve the seismological laboratory is groundless. The personnel of this laboratory were evacuated in October of 1992, and its equipment has been practically destroyed as a result of the combat activities between the armed formations of Abkhazia and Georgia.

Similar laboratories, belonging to the Russian Federation Defense Ministry, are a system for monitoring underground nuclear weapons tests.

**Joint Control of Nuclear Forces Essential**

PM0308161993 Moscow ROSSIYSKAYA GAZETA  
in Russian 4 Aug 93 First Edition pp 1-2

["Commentary" by Deputy Desk Editor Vyacheslav Kocherov: "Creatures Born To Fly Can Also Spread Across the Face of the Earth"]

[Text] A briefcase has been quietly spirited away, as they say. Not at Kazan Station [notorious for thefts], however, but from Marshal of Aviation Yevgeniy Shaposhnikov's office. And not a briefcase full of clothes, but the one containing the nuclear button. As a result the levers of Strategic Forces command and control have passed to the complete and undivided possession of the Russian minister of defense. In the flurry of events of differing significance the incident of the complete "privatization" of the nuclear button has gone almost unnoticed by the public and has not given rise to any serious objections from the CIS member states.

Although previously adopted documents on this matter confirm that the CIS participants jointly formulate policy on nuclear issues and recognize to an equal extent the need for joint command of the Strategic Forces and the preservation of joint control over nuclear weapons and other types of mass destruction weaponry, it is Russia, however, that retains the dominant place in the collective security system. The point is that those with access to the nuclear

button—apart from the commander in chief of the CIS Joint Armed Forces [JAF] and the presidents of all the states with nuclear weapons located on their territory—included the Russian defense minister, since the Strategic Rocket Forces commander in chief and the CIS JAF deputy commander in chief for this area of responsibility was first and foremost a deputy defense minister.

And there is an explanation for this. Seventy percent of mass destruction forces and weapons systems are located in Russia, which is responsible to the world community for them. Incidentally, Moscow, not Kiev, is the site of the defense ministry to which the tried and tested threads of control of a unified diabolical machine ready to spring instantaneously into action at the first signal from the nuclear button stretch from all corners of the former USSR. And the people with the best understanding of the machinery of these interconnections are the commanders in chief of the branches of the Armed Forces of the Russian Defense Ministry located in the same building on the Arbat which used to house the USSR Defense Ministry.

Taking this factor into account, last year the presidents of the CIS states adopted a wise decision: Each commander in chief of a branch of the Armed Forces would have to perform the duties of CIS JAF deputy commander in chief for his own area of responsibility. If this decision had been implemented in practice, it would have been possible to save the unified air defense system from disintegration and we would not have the current Black Sea Fleet problem—a problem supremely stupid in form and tragic in content—since the Navy commander in chief would still be the single and indivisible commander of all the fleets and flotillas. In brief, a unified organism of the most important armed forces systems would have been preserved despite the parade of sovereignties. As for access to the nuclear button, which had become more of a subject of political games by that time, the presidents of Belarus, Kazakhstan, and Ukraine had real access to it on an equal basis, and only by agreement with them could the president of Russia make a decision to use the weapons.

Strange as it may seem, however, it was Russia which was the first to disagree with this approach to solving the collective security problem. Not even 6 months had passed after General Maksimov, commander in chief of the Russian Strategic Rocket Forces, had been appointed deputy commander in chief of the CIS JAF when, by presidential edict—without explanation and without consultation with the other heads of state—he was released from the post of rocket forces commander in chief and Russian deputy defense minister and, as a consequence, was no longer able to perform duties in the CIS JAF High Command since he no longer had the corresponding services, personnel, and command and control centers under his jurisdiction.

Many military experts believe that this was done with just one aim—that of removing the commander in chief of the Strategic Missile Forces from the CIS JAF High Command. We also have the Russian defense minister's opinion on this point: No kind of leadership of the Strategic Forces can be exercised by the CIS JAF High Command. Why not? Because, in Grachev's view, command and control of these forces on the territory of Russia and Belarus is already exercised by the Russian Defense

Ministry. As for the nuclear forces of Ukraine and Kazakhstan, their state affiliation must be determined on a bilateral basis, but the possibility must be examined in the near future of unplugging the neighboring groupings from the system of centralized combat command and control of the Strategic Nuclear Forces.

How is this stance to be explained? Maybe the defense minister is motivated by his native peasant gumption, thinking that this way it will work out "cheaper" for us? But no, the 14 February 1992 Agreement Between the CIS Member States on the Status of the Strategic Forces stipulates that these forces must be maintained out of fixed contributions by all the signatory states. So now, it seems, Russia alone is taking the burden of their maintenance on its own shoulders?

Judging by General Grachev's stance, new upheavals await us in the near future, this time connected with the sharing out of the Strategic Forces, with all the ensuing consequences. The "expropriation" of the nuclear briefcase confirms yet again that Russia, regrettable as it may be, is looking more and more unreliable from day to day as a partner both for the so-called nearby foreign countries and for foreign states proper, since it is Russia that is violating the Treaty Between the USSR and the United States on the Reduction and Limitation of Strategic Offensive Arms, the Lisbon Protocol to which stipulates that "the nuclear arms of the former USSR will remain under the secure, strict, and reliable control of a single joint command."

In the opinion of a number of military experts, in response to Russia's unilateral actions with regard to the Strategic Forces, Belarus and Kazakhstan could declare their own status as nuclear states, despite the fact that Nursultan Nazarbayev is the most consistent advocate of integration in the military sphere. Incidentally, such attempts can already be observed on the part of Ukraine.

What is the way out of this situation? In the view of many officers whom I have spoken with both at the Defense Ministry and at CIS JAF headquarters, what should be done is to take the path of setting up a small staff (in the form of a Nuclear Planning Committee) for command and control [upravleniye] of nuclear forces, under the joint command of the CIS JAF and with the participation of representatives of Belarus, Kazakhstan, Russia, and Ukraine. And the leadership of this staff should be vested in the Strategic Rocket Forces commander in chief. That is to say, the best option is a return to the wise decision by all the presidents last year, concerning the dual subordination of the commanders in chiefs of branches of the armed forces. That is the view of the majority of sensible high-ranking military men in Russia.

As for the reaction of the defense ministers of the CIS states to the situation concerning the leadership of the Strategic Forces, we will presumably learn what it is next week, when there is to be a meeting of the council of defense ministers to examine the questions of the CIS JAF commander in chief and the commander of the Strategic Forces. It remains to be hoped that the defense ministers will find a mutually acceptable solution to the problem that has arisen.

## STRATEGIC ARMS REDUCTIONS

### 'Text' of Government Statement on Ukraine's Nuclear Policy

LD0408193393 Moscow ITAR-TASS World Service  
in Russian 1810 GMT 4 Aug 93

[Text] Moscow, 4 Aug ITAR-TASS—The text of the Russian Federation Government's statement has been published on the series of steps taken by Kiev to establish control over nuclear weapons on Ukrainian territory.

The statement says that on 2 July the Ukrainian Parliament adopted the document "Main Directions in Ukraine's Foreign Policy" in which Ukraine declares that the weapons were its' property. Parliament's act was supported by subsequent public statements of the Ukrainian leadership. The Ukrainian Defense Ministry made the decision to make the troops responsible for keeping and using nuclear armaments part of the 43rd Missile Army under the ministry's command. In this way Ukraine has taken nuclear weapons under its direct control.

In this connection the Russian Government thinks it necessary to make the following statement:

This policy by Kiev is causing concern in the world and leading to very serious consequences for international stability and security, and the whole system of international relations. In declaring herself in possession of nuclear arms, Ukraine is moving toward breaching the international obligations which she had accepted regarding her non-nuclear status, at the same time throwing down an open challenge to international law and order, sowing legal nihilism in international relations.

Kiev is directly breaching a number of agreements concluded within the framework of the CIS, in particular the 6 July 1992 decision by CIS heads of state under which the Russian Federation is the state, out of all those states which inherited the rights and obligations of the USSR, which possesses nuclear weapons.

The Lisbon Protocol to the START I Treaty, under which Ukraine undertook to join the nuclear weapons non-proliferation treaty as a non-nuclear state without delay, is also being breached.

Kiev's line is also incompatible with the obligation accepted by Ukraine regarding the withdrawal of nuclear weapons from its territory in order that they be dismantled and destroyed by the end of 1994.

The existing nuclear weapons non-proliferation regime, based on the 1968 treaty, is being undermined, and the treaty itself, whose fate is to be decided at a conference in 1995, is threatened. A dangerous precedent is being set, which could be followed by countries on the threshold of possession of nuclear weapons.

The results of many years of effort by the international community to achieve nuclear disarmament, first and foremost the START I and START II Treaties, are being torpedoed.

Since Ukraine does not have the necessary material, technical, and technological base, the fact that she is taking control of nuclear weapons considerably increases the

nuclear risk and the threat to ecological safety, for which all responsibility lies, obviously, with Ukraine.

As the only successor to the Soviet Union as owner of nuclear weapons, and as the depository of the Treaty on non-proliferation of nuclear weapons, the Russian Federation cannot recognize as lawful any claims or actions that go against international agreements on maintaining and strengthening the regime of non-proliferation of nuclear weapons. We call on Ukraine to take all measures to strictly observe her non-nuclear status, envisaged in international accords, and to reappraise the above-mentioned decisions by parliament and the Ukrainian Ministry of Defense on establishing control over nuclear weapons.

#### **PM Kuchma on Control of Nuclear Weapons, Sevastopol Status**

*LD0908085693 Moscow Radio Rossii Network in Russian 0800 GMT 9 Aug 93*

[Text] In an interview for the agency INTERFAX UKRAINA, Leonid Kuchma, prime minister of Ukraine, has rejected an accusation by Russia that Kiev is attempting to establish control [kontrol] over nuclear weapons on Ukrainian territory. This accusation is contained in a statement of the Russian Government of 4 August. It is possible that Ukrainian Defense Minister Konstantin Morozov has plans for establishing control over the nuclear weapons, but the Ukrainian defense minister cannot do this unaided, Leonid Kuchma said. The prime minister of Ukraine also thinks that Sevastopol must be leased to Russia. In his opinion, this will show that Russia acknowledges that the city belongs to Ukraine. Leonid Kuchma emphasized that this will also help to reduce the funds expended by Kiev on maintaining the fleet.

#### **Ukrainian Defense Minister Briefs Press on Outcome of U.S. Visit**

##### **Significant Importance Attached to Memorandum**

*LD0208161893 Kiev UNIAR in Ukrainian 1530 GMT 2 Aug 93*

[Text] Kiev, 2 Aug—A news conference has been held on the results of Ukrainian Defense Minister Kostyantyn Morozov's 5-day visit to the United States, where he informed those present about the main tasks of his trip. He went in order to explain Ukraine's position on nuclear disarmament, to substantiate the necessity of financial assistance to be granted to it, and the need for security guarantees to be provided by the United States.

"We felt a change in the attitude toward Ukraine," Kostyantyn Morozov noted.

"This change is in the fact that the United States has lessened pressure on our state and has started showing more understanding."

The defense minister attached significant importance to the memorandum signed during his visit. In accordance with the memorandum, Ukraine and the United States become partners possessing equal rights in the sphere of defense and military cooperation. Mr. Morozov noted that

in addition the memorandum enables Ukrainian-U.S. relations to be taken to a practical dimension.

However, the defense minister believes that the \$175 million granted earlier by the United States toward dismantling nuclear weapons is insufficient for Ukraine. In his opinion, this money is just some help to encourage the first stage of nuclear disarmament, although no specific decision had been made as to providing Ukraine with a weightier sum.

#### **More on Morozov's Briefing**

*PM0408093193 Moscow IZVESTIYA in Russian 4 Aug 93 First Edition p 2*

[Irina Pogodina report: "Ukrainian Defense Minister Pleased With Visit to United States"]

[Text] Kiev—At a press conference K. Morozov, head of Ukraine's military department, described the signing of a memorandum of cooperation in the defense sphere between the Ukrainian and U.S. defense ministries as the result of the fact that America is more understanding about the problems of safeguarding Ukraine's security, has removed its pressure on Kiev, and is prepared to share its experience in the organizational development of modern armed forces.

The memorandum opens up new opportunities for Ukraine to be integrated into world security systems and makes the United States its partner. It also, in the minister's opinion, creates favorable conditions for the United States to elaborate and implement real rather than paper security guarantees for Ukraine as the condition for its parliament's ratification of the START I Treaty.

Proof of that was the Ukrainian delegation's discussion at the State Department of the conditions for signing a "framework" agreement to obtain the promised \$175 million—not as the basis for a full-scale dismantling of all nuclear installations in Ukraine, but merely as startup, incentive assistance.

Ukraine is not working on cracking the Russian nuclear codes nor on retargeting missiles and other action that undermines its neighbors' security, K. Morozov stated. The minister explained the fact that Ukraine has not yet signed with Russia a memorandum of cooperation in the defense sphere similar to the Ukrainian-U.S. memorandum by stating that there are a number of differences on the questions of strategic nuclear forces and the division of the Black Sea Fleet, but there is by no means any lack of desire on the part of Ukraine to cooperate with its great neighbor.

Kostyantyn Morozov stressed that, during his visit to the United States, the scenario of a deterioration of Ukraine's relations with Russia was not examined from a military standpoint, since the Security Council's decision and the participation on it of a U.S. permanent representative leaves hope that there can be a political solution to the problem. Moreover, the defense minister spoke in favor of the idea of concluding a kind of tripartite agreement between Ukraine, Russia, and the United States on cooperation in the defense sphere.

**Kravchuk on Nuclear Arms, Other Issues**

*LD3007175393 Kiev Radio Ukraine World Service  
in Ukrainian 1800 GMT 29 Jul 93*

[Report on an interview with Ukrainian President Leonid Kravchuk by an unidentified correspondent in Kiev on 29 July—recorded]

[Text] **Announcer:** Ukrainian President Leonid Kravchuk was interviewed today by Ukrainian Television on the "With the President on Thursday" program. We offer this interview for your attention.

The needle of the political compass, as opposed to an ordinary compass, can point in various directions. Where is the needle of Ukraine's foreign policy pointing today? To the West? To the East? To what extent does its current orientation influence the resolution of our internal problems? This was the first question put to the Ukrainian president.

**Kravchuk:** I think it would be better to say it this way: This needle is pointing to the protection of our state's national interests. This is the main thing. When the Supreme Council, in accordance with the president's submission, adopted the resolution on the main directions of Ukraine's foreign policy, then it was very much guided, in my opinion, by this very position of how to protect Ukraine's national interests.

If one is to pose the question that way, then it is probably best to reply with these words: We should cooperate with all countries in the interests of our people and our state, regardless of whether they are to the east, west, north, or south. The truth is that there is one detail: We have to be guided by the realities of today. These realities are that Ukraine is a member of the CIS and that its interests—economic ones above all, but not only economic ones—have the greatest force in these very countries. This is the first thing.

The second thing is that we have neighbors, both to the west and east, and in our foreign policy we are also guided by the principle of good-neighborliness with those states nearest to us.

The third thing is that there are countries in which there is a considerable part of the Ukrainian diaspora. This does not depend on whether they are on our border or not. We naturally have to take heed of the priorities of those countries while protecting and maintaining a policy which will suit the interests of our state and which would suit citizens of Ukrainian descent in those states.

There is the general concept; this is cooperation with all states. There is a particularity: Once we are in the CIS, then our priorities are there. But in terms of countries from the CIS itself, then naturally our relations with Russia are in the forefront.

**Announcer:** Many of Ukraine's citizens, the Ukrainian Television correspondent observed, believe that Russia can direct the policies of our state. Leonid Kravchuk replied thusly:

**Kravchuk:** Well, I do not think that it can direct; naturally it can influence our foreign policy by its actions. But if one is to take foreign policy in relation to Russia itself—I have

this in mind—if one is to take our foreign policy strategy, then it is determined not by Russia; it is determined by Ukraine now. But naturally there is influence on our foreign policy, on our actions.

As far as bilateral relations with Russia are concerned, then naturally these depend on both Russia and Ukraine. After all, we act as partners, as neighbors. If Russia, and the Russian parliament—I have already spoken about this and do not want to repeat myself—in adopting this resolution on the status of the town of Sevastopol, it has obviously interfered in our internal affairs.

Here I must speak about the vigorous activity of our Foreign Ministry. It was precisely our Ministry of Foreign Affairs that spoke vigorously at this time. Our appeal to the United Nations, to the Security Council, and the adoption of a statement by the chairman of the Security Council, the formulations of which were proposed by our Ministry of Foreign Affairs, demonstrate our vigor.

We had support on Russia's part. This is very good. I have in mind Russia's executive authority, both the president and the Russian foreign economic department, as well as the Russian representative at the United Nations. We cooperated on this.

As you see, it is not unequivocal. There are matters on which we differ, and there are matters on which we cooperate. But to expect that it will always be so in foreign policy—that we will have no differences—is not realistic. The main thing is to sensibly get out of those differences, to go on to those relations which, I am convinced, our people want today, the people of both Ukraine and Russia.

**Announcer:** The next question, in connection with Ukraine's foreign policy and its security, concerned the nonnuclear status of Ukraine, which until not so long ago was one of the elements of the Soviet side or angle of the nuclear triangle—the USSR, the United States, and China.

**Kravchuk:** I do not think that there is such an angle at the moment. There is a distinctiveness in today's political development in that sphere. What I mean is the fulfillment of obligations arising from START I and the Nuclear Nonproliferation Treaty.

That occurred in a manner independent, in this case, of either Ukraine or Russia. The [Soviet] Union disintegrated. Four states formed on the basis of the Union, on whose territory nuclear weapons remained. In other words, we—Ukraine, Kazakhstan, Belarus, and Russia, naturally—inherited these nuclear weapons from the former Union.

Thus, Ukraine acts as a party to the treaty from now on. But I would like to repeat that there are nuclear weapons on its territory that were inherited. That determines the distinctiveness of the present situation.

As the Supreme Council on 2 July adopted the resolution on the main guidelines of foreign policy that I have already spoken about, there was the following thesis included in it, which was proposed by the Foreign Affairs Commission. I will simply read it out to you. Great discussion on it is currently under way:

Proceeding from the fact that a nuclear war will have catastrophic consequences for the whole of humankind, Ukraine deems the use of nuclear weapons impermissible.

In its foreign political activity, Ukraine actively comes out in favor of comprehensive nuclear disarmament.

Having become the owner of nuclear weapons inherited by it from the former USSR due to historical circumstances, Ukraine will never sanction using them—this sentence is very important now—and will exclude threatening to use nuclear weapons from the arsenal of its foreign policy. That is to say, it is excluded from the arsenal of our foreign policy, which is very important.

Thus, the Supreme Council's resolution did not say that Ukraine was a nuclear state. It said that Ukraine was the owner of nuclear weapons deployed on its territory due to historical circumstances. It recorded the situation concerning nuclear weapons. There is nothing new about it.

I will remind you that in 1991, for example, the Ukrainian parliament adopted the law on 10 September. It is set down there as follows:

The property and financial resources of enterprises, institutions, organizations, and other facilities in the Union's jurisdiction, which are on the territory of Ukraine, are owned by the Ukrainian state.

Thus, this is the property owned by the Ukrainian state, which is on our territory. All the Supreme Council did was confirm the right of ownership. But it did not change the course and the position on Ukraine's status—which is very important. That is to say, Ukraine's position remained as that of a state that is to become nonnuclear. That line has continued from the declaration until now.

Neither the Supreme Council, the president, nor anyone else have changed their course. The resolution confirmed the situation and emphasized that Ukraine will proceed toward the elimination of nuclear weapons in accordance with its status and its course.

The legally binding force, however, will only commence when the Supreme Council ratifies the START I and the treaty.

I emphasise this, as it is very important: the legally binding force. That is, the statements and speeches of today are not legally binding. They are positions. But parliament, after confirming our position with its resolution, after ratifying START I and the treaty on not acceding, after this has happened, this status or this task will become legally binding for all branches of power. [sentence as heard]

**Announcer:** The Ukrainian Television correspondent noted that there are various interpretations of the fact that Ukraine is not implementing its obligations to eliminate its nuclear arsenal and regarding the time period for disarmament. The Ukrainian president gave this explanation:

**Kravchuk:** First, exact and precise formulations are very important in this acute problem, formulations which have both an internal order and which are confirmed by international principles and norms. Here I would like to refer to documents so that it is clearer and more precise.

When parliament ratifies the START I Treaty, then all the nuclear weapons, the destruction of which is envisaged by this treaty and the limit [limit] of which will be determined in the agreement envisaged in the Lisbon Protocol on limits [limity], should be eliminated in this time period. I emphasize: the nuclear weapons, the destruction of which is envisaged by the treaty and by defined limits in accordance with the Lisbon Protocol.

All of this will be eliminated; (?that is), it should be eliminated. Technical possibilities then come up, economic ones, organizational ones, and technical ones. This is then a problem. It goes beyond the protocol interpretation, which I mentioned to you, and is a legally recorded, well-considered, and internationally correct interpretation, both of the treaty and of the Lisbon Protocol.

Then there is the destruction process. Well, we do not have exact calculations at the moment of just how much money is needed. The mass media reported today that our defense minister had a conversation—he is in the United States at the moment—and that there is an accord on granting Ukraine \$175 million. Considerably more is needed, however, to destroy nuclear weapons. Ukraine today, I say this sincerely, does not have such capabilities—neither economic nor organizational.

So we did not turn by chance to the world community about setting up an appropriate disarmament fund. I spoke about this before, when I was in Davos and at news conferences. Well, this idea is advancing very slowly. I am convinced that this idea, however, and the setting up of this fund would suit not only Ukraine's interests, but also the interests of humanity in the whole world because it is about destroying nuclear weapons.

We do not have this realistic, economic, organizational, or scientific possibility at the moment. This means that we need to agree on this. Our government has prepared appropriate agreements with the Russian Government. I think that they will be signed regarding this aspect of the question. In this way, there are two points: the juridical—well, say the international aspect, the legal aspect—and technical and economic regulation. They ought to be combined. When they are combined with the help of other states interested in this—and I think that almost all of them should be interested in this—then this will become reality.

**Announcer:** However, the Ukrainian Television correspondent stressed, many people are rather afraid that the presence of nuclear missiles on Ukraine's territory, if not a threat to someone beyond its borders, it is still a real danger to the people of our own country.

**Kravchuk:** There are truly reasons to be apprehensive here, although I should say one thing: Our nuclear weapons, which are located on our land, are not the same as the nuclear weapons....[pauses] They cannot be compared, for example, with the nuclear weapons of the United States, Great Britain, France, China, or Russia. Those states have their own technology for producing nuclear weapons, their own technology and the industry to produce them. They have set up programs to aim nuclear weapons. In fact, they have the technical possibilities to utilize and test them. We do not have any of this. We only inherited nuclear weapons.

Thus, our nuclear weapons do not pose any threat to other states. What is more, we do not, have not, and will not set ourselves the task of zeroing them in on a target. We do not have the technological capabilities; nor do we assign ourselves such a task.

Thus, these nuclear weapons of ours are a legacy and, realistically speaking, they cannot be reproduced in Ukraine. That is to say, we do not have either the industry or the technology—to speak nothing of the enormous funds that would be required had such a task been assigned. However, we do not even set ourselves that task. Our course is nonnuclear, and we proceed toward a non-nuclear Ukraine. That is one aspect.

The other is that, indeed, they are now being serviced by the same servicemen as those who serviced them when there was a Soviet Union. I recently visited one of the missile units; it seems to me you were there with me and saw that the technological level of their servicing was quite high. It was done with great responsibility by the military. We settled a number of organizational, material, and day-to-day issues there concerning those people dealing directly with nuclear weapons. We expressly decided there that those nuclear warheads—the service life span of which, if I could say so, is expiring—will be removed and transferred to appropriate facilities.

That is to say, it is very important that, regardless of how the ratification progresses, we will be taking the warheads off those missiles for which the service life span has expired or run out and will store them at facilities on Ukrainian territory that are specially adapted to suit that purpose.

So, that alone dismisses any threat, since the warheads will be removed from especially those systems, I think, that were built quite a long time ago, which is 130 (?liquid-fuel) missiles.

Thus, both politically and in terms of our course and the capabilities of our industry, neither our policy nor our position on these missiles poses any threat to other states.

This is said by those who want to spoil Ukraine's image and present the picture that Ukraine wants to profit from this, that Ukraine is supposedly using nuclear weapons like a large stick to intimidate someone. Well, all of this is insinuations, insinuations which are based on forcing Ukraine to take a step against its interests.

But we will not do this, because we rely on the legislative basis, on international principles, including the Vienna Convention, incidentally, which fixes succession, and we will proceed resolutely along the course toward being a nonnuclear state, only—I repeat—we want the necessary steps to be taken for Ukraine both regarding its security and regarding assistance for it, and regarding certain guarantees. That is all; nothing else.

There are those who think that these nuclear weapons can be utilized to make some kind of, well, strike on some potential aggressor. I have already said that this is simply unrealistic from the technical point of view, but this is not the main thing. The main thing is that we have not set ourselves this task, we are not setting it, and we will not be setting it, and that this is a thread running through all of

our documents, including the latest resolution by the Supreme Council, which I have just quoted to you.

### **Ukraine's Pavlychko on Possible Ratification of START I Treaty**

*LD3107103193 Kiev UNIAN in Ukrainian  
1940 GMT 30 Jul 93*

[Text] Kiev—In an interview for the “HOLOS UKRAY-INY” newspaper, Dmytro Pavlychko, chairman of the Ukrainian Supreme Council Commission for Foreign affairs, stresses that the transfer of strategic nuclear weapons to Russia “would be a betrayal for which there is no justification.” He reports that opinion has developed in the Supreme Council that we should deal with these weapons in such a way so that the Ukrainian people get some materiel benefit from this. Dmytro Pavlychko believes that Ukraine should turn the right to possess nuclear weapons into guarantees of its own national security.

Speaking about the prospects of the Supreme Council's examination of the “START I” Treaty, the Lisbon Protocol, and the Nuclear Non-Proliferation Treaty, the commission chairman says that “START I” will probably be ratified in September or October this year. The ratification of the Lisbon Protocol is a lot more complicated, stresses the deputy. It can be ratified, but without the fifth point, which says that Ukraine should accede to the treaty as a non-nuclear state. Ukraine has a partial [nepovnyy] nuclear status. Without it Ukraine would simply not be a part of the “START I” Treaty.

In the opinion of Dmytro Pavlychko, the 46 solid fuel missiles should remain on Ukrainian territory until the Nuclear Non-Proliferation Treaty is reviewed in 1995. But even after this, taking into account the complex process of destroying warheads and missiles, some part of the nuclear weapons would still remain on Ukrainian territory for some time, notes D. Pavlychko.

### **Pavlychko Discusses Nuclear Weapons, Fleet**

*AU1008156293 Prague CESKY DENIK in Czech  
7 Aug 93 p 5*

[C. Svitak and T. Zahradnicek report: “No One Is Interested in Our Gestures”]

[Text] Dmytro Pavlychko, chairman of the Ukrainian Parliament Foreign Affairs Committee, held talks in Prague recently with his Czech counterpart, Jiri Payne, and Deputy Foreign Minister Alexandr Vondra. We took the opportunity to ask him about the future of nuclear weapons in Ukraine and the fate of the Black Sea Fleet.

### **We Will Decide Ourselves About Our Nuclear Weapons**

The foreign policy concept approved by the Ukrainian Parliament that declares the former Soviet nuclear weapons deployed on Ukrainian territory to be Ukrainian property merely expands on the legal norms adopted earlier. On 10 September 1991 we approved a law making all property situated on Ukrainian territory belong to the republic. The nuclear weapons deployed on Ukrainian territory have to have a proprietor who can decide what will be done with them.

We now have 176 nuclear intercontinental missiles, 46 of which were made in Ukraine. The rest, made in Russia, will be handed over to Moscow for destruction within the framework of the START-1 Treaty. We will keep the 46 missiles until a decision is made about them on the basis of the nuclear non-proliferation treaty. The codes enabling direct use of these missiles are in the possession of the Russians; we have technical control over them. The strategic weapons on our territory are administratively incorporated into the 43d Ukrainian Army. They formally belong to the Commonwealth of Independent States [CIS], but the CIS does not actually have any military forces.

This does not mean we have changed our policy and that we want to become a nuclear power. It simply means that Ukraine—and not Russia, the United States, or anyone else—must decide at the appropriate moment about the timing and method of eliminating our nuclear weapons. The issue of financing the elimination of these weapons is still open. The United States has offered us \$175 million; however, we require \$3.0 billion for this.

#### **Are We To Hand Over Our Weapons to a Country Threatening Us?**

Commentaries are often published in the foreign press accusing Ukraine of wanting to use these nuclear weapons for blackmail. The nuclear weapons on our territory are defunct. Ukraine has resolved never to use them; this is enshrined in many of our resolutions and laws. At the same time, we have already handed over to Russia tactical nuclear weapons. Russia was obliged to compensate us for the uranium contained in their warheads, but it has not done so. No one anywhere in the world has even said "Thank you" to us. We have realized that no one is interested in either this gesture or in our oft repeated intention to become a nuclear-free country. It is necessary to remember that a large percentage of former Soviet arms—including the missiles that are currently deployed, for example, in Russia—were made in Ukraine. The Chernobyl nuclear power station produced the plutonium for the nuclear warheads. Anyhow, we cannot hand over our weapons and not ask for material compensation for them.

The resolution approved by the Moscow parliament on the Russian federal statute for the Ukrainian port of Sevastopol created such feeling among the Ukrainian deputies that the majority of them regard the handover of nuclear weapons to Russia as a betrayal of our interests. Are we to hand over nuclear weapons to a state whose legislative body is making such unconcealed territorial claims against us? As long as the Russian Parliament's resolution on Sevastopol remains valid, not only we, but also our western neighbors, are threatened. The Czechs in particular should understand our situation. After all, Russia's claims on Ukrainian territory are reminiscent of Hitler's pre-war claims on Czechoslovakia. We are well aware that Russia is our largest neighbor and we want to get on well together. However, our compromising steps cannot be interpreted as capitulation. Had Russian President Yeltsin and his administration not come out against the Moscow parliament's resolution on the Russian statute for Sevastopol, we would now most probably be at war with Russia.

Our relations with Russia are not regulated only in accordance with our wishes, but, in my opinion, they also depend on the position of European states, including the Czech Republic.

#### **A Mistake in the Lisbon Protocol**

Not long after the collapse of the USSR, Ukraine signed the Lisbon Protocol as one of the START-1 Treaty countries. It is stated in the fifth point of this treaty, however, that we are a country without a nuclear statute, which is a mistake. If we are one of the START-1 Treaty countries, then, of course, we have a nuclear statute. A great deal of water has passed under the bridge since this treaty was signed and the international situation has in many ways changed. We will ratify the Lisbon Protocol in parliament, but without the fifth point. This is the will of parliament. At the same time, the controversial former Soviet nuclear weapons cannot be decisive in determining whether Ukraine is a nuclear state. We now have such scientific and industrial potential so we can manufacture nuclear weapons ourselves.

#### **No One Needs the Fleet in its Current Form**

Russia is playing the following game: It is persuading officers and rank-and-file sailors to support the unity and inviolability of the Black Sea Fleet. We, on the contrary, support the elimination of this fleet. It is not needed in its current form either by Russia or by Ukraine. We have already expressed ourselves in favor of demilitarizing the Black Sea region and we have initiated, for example, the removal of nuclear warheads from the submarines that used to belong to the USSR. Not even in the future do we intend to strive to become a military power in the Black Sea region. We do not even intend to build a strong Ukrainian fleet here. The huge Black Sea Fleet of the former USSR represents the militarization of this region. Moreover, it is obsolete and in poor condition. Ukraine would like to have a smaller fleet in the future, which it could use economically.

The issue of the Black Sea Fleet is, however, a "matrioshka doll" that conceals within itself the problem of the Crimea and the financing and the future of the 10,000 Russian sailors in the fleet. Russia still has a large number of its troops stationed abroad, but it cannot afford to bring them home and guarantee them an appropriate future there. Russia must start paying us for allowing its ships to anchor in our ports and its units to be deployed in the Crimea.

It would be nice if, after the division of the fleet, we could in the future—as some people think—sell some of the ships from the fleet to other countries, for instance, to Iran in exchange for oil. We would be doing the same as the Russians who, despite great concern on the part of the United States, are now selling components for nuclear weapons to Iran and India. The snag is that these ships are only good for scrap.

#### **Ukrainian Arms Control Official Reiterates Position on START**

##### **Need for Reductions**

*LD1008172493 Kiev UNJAR in Ukrainian  
1524 GMT 10 Aug 93*

[Text] Kiev, 10 Aug—Kostyantyn Hryshchenko, head of the directorate for arms control and disarmament [upravlinnya nad ozbroyenniam ta rozzbroyenniam], commented on the position of the Ministry of Foreign Affairs



on arms control at a regular briefing at the Ministry of Foreign Affairs of Ukraine.

As of today the situation has not changed. Strategic nuclear forces deployed on Ukraine's territory are under the operational command of the CIS Unified Armed Forces. The Ministry of Defense of Ukraine is implementing only administrative management of these forces.

As regards the START Treaty, Kostyantyn Hryshchenko reported that following the break-up of the USSR the problem of the need for distributing quantitative reductions of nuclear armaments between the successor states had arisen.

#### Further Comments

LD1008221893 Kiev UKRINFORM in Ukrainian  
1740 GMT 10 Aug 93

[Report by UKRINFORM correspondent Olena Kyrychenko]

[Text] Kiev, 10 Aug—The adoption by the Ukrainian Supreme Council of the basic directions of Ukraine's foreign policy have been widely reported in the media, and in particular the clause on Ukraine, having become an owner of nuclear weapons inherited from the former USSR because of historical circumstances, will never sanction their use, excluding from its foreign policy arsenal the threat of using nuclear weapons. Kostyantyn Hryshchenko, head of the Ministry of Foreign Affairs directorate for arms control and disarmament, commented on this problem at a briefing at the Ministry of Foreign Affairs of Ukraine today.

A statement on the real situation is rendered in this clause, he emphasized, in as far as from the juridical point of view it had already been defined in the law on economic self-determination of the Ukrainian Soviet Socialist Republic of 1990 and in the law on enterprises, institutions, and organizations of Union subordination located on Ukraine's territory of 1991. These laws are based on the norms of international law regarding the succession of states and on the Vienna Convention of 1983.

As an owner of nuclear weapons, Ukraine has handed over the right to employ them for the Unified Command of the CIS Strategic Forces on condition that it secures on its part control over the non-employment of these weapons. "Therefore this clause is only the recording of the real situation in a document adopted by the Supreme Council, and there are no grounds for the mass media to make such waves," believes Kostyantyn Hryshchenko.

From the juridical point of view, he stated, unilateral actions by Russia cannot be acknowledged as a juridical fact. So, the Unified Command exists, although without a commander in chief. So the situation remains as it was previously, that is the strategic armaments and the strategic nuclear forces deployed in Ukraine are under the operational command of the CIS Unified Strategic Forces, and the Ukrainian Ministry of Defense is implementing only administrative management.

"We do not agree with Russia's efforts to subordinate strategic armaments," said Kostyantyn Hryshchenko, "one should proceed from the position that only those who adopted the decision can repeal it, and not just one side."

Under the conditions of the Lisbon Protocol, the reduction of strategic nuclear weapons should also be proportional, he noted, it is incorrect to think that one country is going to reduce its armaments, while another country is not.

It was also reported at the briefing that the process of preparing for the meeting between the presidents of Ukraine and Russia is proceeding at the level of experts. The place and time of the meeting are being coordinated.

#### Ukraine: U.S. 'Softening' Stance on Nuclear Missiles

PM0208162993 Moscow PRAVDA in Russian  
31 Jul 93 p 3

[Vladislav Drobkov report: "Kiev Dismantling Missiles Which Moscow Still Considers To Be Its Own"]

[Text] Washington, 30 Jul—Ukrainian Defense Minister K. Morozov, who is on an official visit in the United States, has confirmed U.S. intelligence reports, which were not published until recently, that Kiev has unilaterally started dismantling strategic nuclear missiles. The selfsame ones whose fate is still the subject of a dispute between Ukrainian and Russian politicians and military figures.

According to the assessment by representatives of the U.S. Administration, the minister's admission eliminates the impasse which had developed in relations between Washington and Kiev. The United States had hitherto insisted on Ukraine joining the START I Treaty as quickly as possible and honoring its promise to hand over its nuclear potential to the "successor" of the Soviet Union—Russia. But Kiev's firm refusal to part with the missiles and the attempts made by certain Washington politicians to use the Russian-Ukrainian friction and disputes in their own interests led to a change in tactics. Now all the indications are that Washington is prepared to turn a blind eye to the fact that Ukraine is retaining its strategic nuclear forces.

However, in purely verbal terms, the United States is continuing to call on Kiev to give up its nuclear weapons and joint the START I Treaty and, in the future, the START II Treaty. But in actual fact it is significantly softening its position. Thus, the United States has unblocked the supply to Ukraine of \$175 million for the dismantling of nuclear munitions and associated purposes which were promised by G. Bush in the past. Bush himself, I would recall, promised this money only in exchange for Ukraine's signature to the START I Treaty.

And so, the eternal problem—"money in the morning, treaty in the evening"—seems to have been resolved. Kiev will be rewarded for displaying persistence. As Morozov assured L. Aspin, his U.S. counterpart who was receiving him in the Pentagon, Kiev was able to reach agreement with Moscow on the dismantling of 10 "SS-19" MIRVed intercontinental missiles sited near Pervomaysk. According to U.S. intelligence reports, these were targeted on the United States. At the same time Morozov acknowledged that Russia and Ukraine have not yet reached agreement over who should get the six nuclear warheads located on each of the "SS-19" missiles.

Nor did the Ukrainian minister report how much time the process of dismantling the missiles would take, whether



their warheads would be destroyed, and whether parliament in Kiev would ratify the Treaty on the Nonproliferation of Nuclear Weapons. Until recently Washington was very resolutely insisting on this ratification as a guarantee of Ukraine's nuclear-free status. Admittedly, in recent weeks, this resoluteness eased somewhat under the influence of forces in the administration which are calling on the White House not to put excessive pressure on Kiev.

According to THE WASHINGTON POST, even during his recent visit to Ukraine L. Aspin "privately" assured Ukrainian leaders that the U.S. aid, whose conditions were so tough until recently, will be granted as soon as Kiev decides to start dismantling the nuclear missiles located on Ukrainian territory.

It is really noteworthy that this obvious concession on Washington's part was made after the Americans failed to act as mediators in the protracted dispute about the future of the missiles and warheads between Ukraine and Russia. During these attempts, the United States even proposed to pay the Ukrainians approximately \$1 million for every nuclear warhead which they handed over to Russia.

Kiev did not agree to these conditions, obviously believing that if they displayed persistence and intractability, they might be able to obtain even more from Washington. And apparently the Ukrainians were not mistaken. It has become known here that U.S. aid for the dismantling of the missiles will be given to Ukraine during the whole time that this work is going on. And it may go on for many years.

And another noteworthy detail. According to U.S. specialists and intelligence data, the Ukrainian military and scientists have now got down to attempts to reprogram the flight parameters programmed into the guidance systems of the more modern "SS-24" missiles which were made at Ukrainian enterprises. They are also trying to decipher the Russian codes without which it is impossible to use the warheads. It is quite probable that in time Kiev will obtain the possibility to retarget the missiles it has in its possession.

Where to? Washington is trying not to discuss this question in public. Although people here have noted that Ukrainian Defense Minister K. Morozov categorically refused to start the simultaneous dismantling of the "SS-24" missiles, with 10 nuclear warheads each, on which his U.S. partners at the present talks initially tried to insist.

And this obstinacy did not prevent Washington from giving the go-ahead to grant Kiev the substantial dollar aid. As we can see, the United States is not too worried about the where the rockets "clutched" by Ukraine are targeted.

But what will Russia's attitude toward this be?

#### **Ukraine: West 'Seriously Concerned' Over Nuclear Missile Control**

*PM0508105193 Moscow Ostankino Television First Channel Network in Russian 1700 GMT 4 Aug 93*

[From the "Novosti" newscast: Announcer-read report over video of Ukrainian nuclear missiles]

[Text] [Announcer Komarova to camera and over video of missiles] A statement by the Russian Government was

circulated today, calling on the official authorities in Kiev to review the decision of the Ukrainian Parliament and the republic's Ministry of Defense on the establishment of control over nuclear weapons. Let me recall that the Ukrainian Parliament passed a document entitled "Basic Guidelines of Ukraine's Foreign Policy" 2 July, in which it proclaimed its ownership of nuclear weapons. The Russian Government statement warns that this could have very serious consequences for international stability and the security of the entire system of international relations.

People in the West are seriously concerned. The BBC, citing Ukrainian Premier Leonid Kuchma, reports that Ukraine is capable of creating its own coded commands for launching certain types of nuclear missiles located on its territory. This means that there is a possibility of sidestepping Moscow's control over nuclear weapons. [video shows underground missile control facilities, truck-mounted missile]

#### **Ukraine: Study Views Attitudes Toward Nuclear Weapons**

*AU1008061793 Kiev HOLOS UKRAYINY in Ukrainian 6 Aug 93 p 7*

[Article by Valeriy Pylypenko, candidate of philosophical sciences and head of section at the Ukrainian Academy of Sciences Sociology Institute: "Nuclear-Free Status. What Our Citizens Think About It"—first paragraph published in boldface]

[Text] The availability of nuclear weapons on the territory of our state poses a whole number of problems concerning relations between Ukraine and Russia and between Ukraine and Western countries. As is known, Russia and the West are in favor of an unconditional withdrawal of nuclear weapons from Ukraine and ratification of the Nuclear Nonproliferation Treaty by its parliament as a parliament of a nuclear-free state. At the same time, one cannot fail to realize that the problem of nuclear weapons and Ukraine's nuclear-free status is not as simple as it seems to some people in Moscow and Washington. Ukraine borders on nuclear powers on the west and east and is situated at the crossroads of economic and geopolitical interests of many of them. No less important are the economic and legal aspects of the problem. The point is that the recognition of Russia as the only successor to the former Union creates a precedent of rating all other "heirs" as being of "minor significance" in what also concerns USSR property.

The contradictory nature of the problem of eliminating Ukraine's nuclear weapons also finds speculation in the people's mass consciousness and public opinion. This is attested to quite convincingly by the results of a study that was conducted by the Academy of Sciences Sociology Institute. There exist three variants of resolving the problem of nuclear weapons in Ukraine. More specifically: their unconditional transfer to Russia; their elimination on the conditions of obtaining international security guarantees on the part of the United States and Russia and a compensation for the nuclear fuel and dismantling of the missiles; and the keeping of nuclear weapons by Ukraine as a guarantee of its own security. The struggle is mainly under way between the proponents of the two latter

variants. That is why, although, on the whole, 49 percent of Ukrainian citizens advocate Ukraine's transformation into a nuclear-free state and just a little more than one-third are in favor of retaining the nuclear status and maintaining nuclear weapons as a security guarantor, the dispute is not between advocates of an unconditional transfer of the nuclear weapons to Russia or their transfer conditioned by certain guarantees and compensations, but between those who advocate guarantees and compensations and those who insist on retaining the nuclear cue.

The situation appears to be even more complicated if one takes into account the specific characteristics of public opinion in various regions. Thus, whereas in the Crimea and Slobodskaya Ukraine [territories involving Kharkiv and Sumy oblasts], just one-fifth of the population favor retaining nuclear weapons and two-thirds—one variant of nuclear disarmament of another, in Galicia, Podillya, and Cherkasy Oblast, as well as in Dnipropetrovsk Oblast and Bukovyna, there are more advocates of retaining nuclear weapons. Of course, in addition to the variant of its transformation into a nuclear power, Ukraine has other ways of achieving its own security, including joining military units and alliances. As follows from our previous studies, increasing numbers of Ukrainian population (at least in the capital) favor Ukraine's joining NATO. On the other hand, of interest is the attitude to a military-political alliance with Russia and assessment of the latter's role as a possible guarantor of peace and security on the territory of the former Union.

The results of a study indicate that the idea of Ukraine's military-political alliance with Russia is quite popular not only among individual political forces in Ukraine but also among a broad strata of its population. This idea is supported by almost two-thirds of our citizens and in Dnipropetrovsk, Donbass, Slobodskaya Ukraine, and the Crimea by as much as 70-85 percent. As a matter of fact, it is only in Galicia that the idea of a military-political alliance between the two states finds support among less than 50 percent of the population.

If Ukraine becomes a nuclear-free state, a union with Russia (certainly, on the basis of equality) would, in all likelihood, be worthwhile. However, is it achievable on the basis of equality and not vassalage to Russia and, moreover, in the conditions of an exacerbation of economic and territorial disputes? A question naturally emerges: Will Ukrainian citizens agree to Russia's special role on the territory of the former USSR? An analysis of the results of the studies has revealed a controversial character of the mass consciousness of the Ukrainian population on these issues. On the one hand, almost two-thirds of citizens of our country (especially in eastern oblasts bordering on Russia) agree to Russia's assuming the role of guarantor of peace and stability on the territory of the former Union. However, on the other hand, the proposal that Russia also be given special rights (much greater than other countries) in order to guarantee peace and stability on the territory of the former Union is equally unacceptable for an absolute

majority of the population of all Ukrainian regions. Between 7.7 percent (Donbass) of respondents and 0.0 percent (Galicia) agree to such rights for Russia. This actually rules out a military-political alliance between the two states because it is unlikely that Russia will agree to an equal union, and, for Ukraine, this is unacceptable.

Consequently, the study has revealed two most popular attitudes toward the withdrawal of nuclear weapons from the territory of Ukraine to Russia for their subsequent destruction there. One of them (elimination of Ukraine's nuclear weapons after providing it with guarantees and compensations) prevails in the east, south, and in the Crimea. The other (retaining nuclear weapons as a guarantee of Ukraine's security) is more common in western and central regions of Ukraine. These differences in public opinion are reflected in the struggle among various political forces in parliament and in the mass media.

In such conditions, a hasty ratification of START-I and the Lisbon Protocol, as well as a decree on the schedule for their implementation (without corresponding amendments regarding security guarantees and compensations), would be inopportune and harmful.

#### **Ukraine Accused of Selling Uranium at 'Dumping' Prices**

*LD1108090893 Moscow ITAR-TASS in English  
0730 GMT 11 Aug 93*

[By ITAR-TASS correspondent Mikhail Kolesnichenko]

[Text] New York August 11 TASS—The U.S. International Trade Commission has accused Ukraine of selling highly enriched uranium for dumping prices and has imposed sanctions on it, according to which Ukrainian exporters of uranium, used for manufacture nuclear weapons, will have to pay duties equivalent to the price difference, the U.S. "Journal of Commerce and Commercial" reported on Tuesday with reference to its own sources.

The commission's decision came as a reply to the complaints of local uranium manufacturers and the international petroleum, chemical and atomic industry workers union. The journal stresses that Ukraine was accused of selling uranium in the United States at prices that should have been 115.82 percent higher in accordance with the American laws ensuring their fair level.

The U.S. Department of Commerce had disclosed last year that Ukraine, Russia, Kazakhstan, Tajikistan, Uzbekistan and Kyrgyzstan were supplying to the American market uranium at 50 percent of its market price. After that the governments of these countries promised to alter their price policy. However, the "Journal of Commerce and Commercial" says, the dumping sales are growing rapidly. The U.S. International Trade Commission has already arrived at the preliminary conclusion that the U.S. uranium industry had suffered huge losses as a result of such imports. The newspaper notes that if the other republics of the former Soviet Union did not stop the dumping, they would be subjected to similar sanctions.

### **Ukraine Space Agency Official on Space Program, Tasks**

*AU0508100493 Kiev MOLOD UKRAYINY in Ukrainian  
3 Aug 93 p 3*

[Interview with Andriy Zhalko-Tytarenko, deputy general director of Ukraine's National Space Agency at Ukraine's Cabinet of Ministers, by Volodymyr Oliynyk; place and date not given: "We Are One of the Strongest Space Powers"]

[Text] Oliynyk: What has Ukraine inherited from the Union in the space sphere?

**Zhalko-Tytarenko:** We have the world's largest missile-building complex and an artificial-satellite building complex, the Pivdennyi [Southern] machine-building plant, and the design bureau "Pivdenne" [Southern]. Ukraine has inherited a number of other plants in Kharkiv, Kiev, and so on. All of these plants are known in the West, but they are known as mainly manufacturing weapons. A great part of the former Union's military space technology was manufactured in Ukraine. These are heavy ballistic missiles that have no analogues in the world, and we are now also capable of manufacturing them. Of course, this is a large part of the complex, but this is a section of it that has been derived from the total Union cooperation. This is a major industry at a world level. Speaking absolutely openly, Ukraine is already capable of exporting, to the world market, either products of the aerospace industry or raw materials for that industry: steel and semi-finished products. If we lose the possibility to work in the aerospace sphere, we will automatically turn into an ordinary third-world country with all the consequences of such a status.

**Oliynyk:** However, this is not only a matter of prestige. This is commercially profitable—the exploitation of space. Isn't that so?

**Zhalko-Tytarenko:** There are commercially profitable things. There is a system of artificial-satellite communication that we can manufacture. It is a profitable industry. There are things that we simply need—this is remote-control probing of the earth, control of the ecological situation, and emergency communication systems. These are things that we will do. If we lose these things, then, in 2 or 3 years, the presently functioning artificial satellites will end their service life, and we will have to purchase artificial satellites from our neighbors for the same currency that we may, as they say, save today, and not for coupons as we do now. Most likely, in Russia, this issue will be conditional upon our independence.

**Oliynyk:** Incidentally, how about the presidential communication system?

**Zhalko-Tytarenko:** I am not convinced that it is worthwhile purchasing a special-communication system for our president somewhere abroad. This contradicts the issue of Ukrainian independence.

**Oliynyk:** What are the tasks of the National Space Agency?

**Zhalko-Tytarenko:** We have a National Space Program that was prepared within a short period of time and is oriented toward resolving urgent problems of the space industry. This is, primarily, the development of what we already have. We manufacture "Tsiklon" [Cyclone] launch

vehicles, which are the most reliable in the world, and we have "Zenit" [Zenith] launch vehicles that are capable, if we wish, of launching a Ukrainian cosmonaut into space tomorrow.

We have a broad range of artificial satellites that need to be reoriented from military to civilian tasks. We must create a national artificial satellite, and this is envisaged in the program.

**Oliynyk:** How about launching conditions?

**Zhalko-Tytarenko:** Unfortunately, in this aspect, we are still strongly tied to Russia. There are two space-vehicle launching sites there. These are "Plesetsk," from which we may launch "Tsiklons," and Baykonur, from which "Zenits" are launched. This question also needs to be resolved, and we are working in this direction. I will not disclose technological secrets of how we are going to do this. Already now, having many strategic missiles, we can launch, to relatively low orbits, artificial satellites that may be used in communication systems and so on.

**Oliynyk:** However, these missiles are subject to conversion?

**Zhalko-Tytarenko:** Naturally, but not in the way it is envisaged: by blowing them up. Why not mount an artificial satellite on the missile and use it to launch the artificial satellite instead of simply destroying it in addition to spending a lot of money on eliminating the consequences of its destruction?

**Oliynyk:** How does the project justify the development of the industry in such a difficult economic situation?

**Zhalko-Tytarenko:** The project envisages this. We have unique equipment that is presently standing idle. If it is not used, let us say, for six months, it may simply be discarded. This business must be boosted, something that does not involve great expenses. We will do this. Our task is to survive until better times. Moreover, we must not halt in our development.

**Oliynyk:** What will happen if Russia and Kazakhstan refuse to allow Ukraine use of their space vehicle launching sites?

**Zhalko-Tytarenko:** It is necessary to influence our CIS partners through interstate channels. However, there are many more fish in the sea, even though we now have absolutely normal and, I would say, friendly relations with the Russians and Kazakhs. However, we must look for other channels. We are working in this direction. The French are trying to prepare "Orient-5" (which is still in the form of a project; it is somewhat weaker than our "Zenit") at the Kuru [transliteration] space vehicle launching site, and we can come to an agreement with them in this respect. For light-weight missiles, aviation takeoff areas may be used.

**Oliynyk:** What specifically is being prepared for launching?

**Zhalko-Tytarenko:** We are preparing our national artificial satellite for remote-control probing of the earth. Commercial negotiations are under way with several Western countries on launching their artificial satellites into space with the help of our missiles, but mainly on assembling artificial satellites in Ukraine. The only problem lies in the fact that we have dissimilar standards for receiving transmissions, but these are technical difficulties and they are being eliminated.

**Oliynyk:** How does Russia, which is an actual owner of two space vehicle launching sites, react to Ukraine's space activity.

**Zhalko-Tytarenko:** In principle, at the working level, we have normal working relations with the corresponding Russian agency, because they realize that their space programs will not be able to survive without Ukraine. As regards the highest-ranking politicians in Russia, you know that there exists a tripartite agreement on the use of Baykonur that was concluded by Russia, Ukraine, and Kazakhstan. Then, all of a sudden, Russian Defense Minister Grachev arrived in Baykonur and made a statement that Baykonur is Russian. Despite the fact that Baykonur is financed by three states. Whereas, making declarations about the status of Sevastopol, they can deliver something there by sea, in the case of Baykonur, I absolutely do not understand how the Russians may get there. In other words, Russia does try to break it all up.

**Oliynyk:** What profit may Ukraine's space activity bring?

**Zhalko-Tytarenko:** I do not like predictions, but I will quote one example. A commercial launching of an artificial satellite for remote-control earth probing earns almost one-half billion U.S. dollars. This is a sufficient sum to compensate for all the outlays on our space industry for several years ahead. The price of a missile similar to our "Zenit" ranges between \$60 million and \$120 million.

We are conducting negotiations on the sale of missiles. Although this is very difficult because nobody on the world market is waiting for us with roses, but there already are partners.

#### **Moscow Urges Ukraine To Review Stance on Nuclear Arms**

PM0608105193 Moscow ROSSIYSKAYA GAZETA  
in Russian 6 Aug 93 First Edition p 3

[Undated "Russian Federation Government Statement" carried under the "Official" rubric]

[Text] Kiev has recently taken a number of steps to establish control over the nuclear weapons on Ukrainian territory. On 2 July 1993 the Ukrainian parliament approved a document entitled "Basic Guidelines for Ukraine's Foreign Policy" in which Ukraine declares itself to be the owner of these weapons. This act by parliament was supported in subsequent public statements by the Ukrainian leadership. The Ukrainian Defense Ministry adopted a decision to include the troops storing and operating nuclear munitions within the 43d Missile Army, which is under its command. Direct Ukrainian control over nuclear weapons is thereby established.

In this connection the Russian Federation Government deems it necessary to state the following.

This line by Kiev, which is causing concern in the world, is leading to extremely serious consequences for international stability and the security of the entire system of international relations.

By declaring itself to be the owner of nuclear weapons, Ukraine is violating the international commitments which it adopted regarding its non-nuclear status and is thereby

openly challenging international law and order and fostering legal nihilism in international relations.

Kiev is directly violating a number of agreements concluded within the framework of the CIS, in particular the decision of 6 July 1992 by the CIS heads of state whereby only the Russian Federation among the legal successor states to the USSR is a state possessing nuclear weapons.

The Lisbon protocol to the START I treaty, whereby Ukraine pledged to accede to the Treaty on the Nonproliferation of Nuclear Weapons within a very short time as a nonnuclear state, is also being violated. The written statement by the Ukrainian side in connection with the signing of this protocol places it on record that "...with the explicit consent of Ukraine and all other legal successor states to the former USSR, the right and burden of possessing the nuclear weapons of the former USSR was reserved for the Russian Federation alone."

Kiev's line is also at odds with Ukraine's pledge regarding the withdrawal of nuclear weapons from its territory with the aim of dismantling and destroying them before the end of 1994.

The existing regime of the nonproliferation of nuclear weapons, which is based on the 1968 treaty, is being undermined, and the treaty itself, whose fate will be decided at a conference in 1995, is under threat. A dangerous precedent is being set which might be exploited by countries on the threshold of possessing nuclear weapons.

The results of many years of efforts by the international community in achieving nuclear disarmament, above all the START I and START II treaties, are being torpedoed.

Since Ukraine does not have the appropriate material and technical and technological infrastructure, the fact that it is establishing control over nuclear weapons considerably increases the risk from the viewpoint of nuclear and environmental safety, and the entire responsibility for this certainly lies with Ukraine.

The Russian Federation, as the sole legal successor to the USSR with regard to the possession of nuclear weapons and as depositary of the Treaty on the Nonproliferation of Nuclear Weapons, cannot deem lawful any claims or actions at variance with international accords on preserving and strengthening the regime for the nonproliferation of nuclear weapons. We call on Ukraine to take all measures to ensure strict observance of its non-nuclear status as envisaged by international agreements and to review the aforementioned decisions by Ukraine's parliament and Defense Ministry on establishing control over nuclear weapons.

At the same time the Russian Federation expresses readiness to continue cooperation with Ukraine in ensuring the nuclear and environmental safety of nuclear weapons on the basis of the theses set out in Russian Federation President B.N. Yeltsin's message of 30 April 1993 to the president of Ukraine.

### Background to Moscow Protest on Ukraine N-Arms Eyed

PM0608134993 Moscow IZVESTIYA in Russian 6 Aug 93  
First Edition pp 1, 2

[Viktor Litovkin commentary: "While Moscow Protests, Ukraine Becomes the Possessor of Nuclear Weapons"]

[Text] ITAR-TASS has disseminated a Russian Government Statement containing a resolute protest on the subject of unilateral steps by the Ukrainian leadership which have in practise moved Kiev toward establishing full control over nuclear weapons on Ukrainian territory.

Among these steps the Russian Government lists a document adopted by Ukraine's parliament entitled "The Fundamental Areas of Ukrainian Foreign Policy" where the state proclaimed itself the proprietor of nuclear weapons, as well as an order from Defense Minister Konstantin Morozov (No. 050) "On the Status of 'S' Installations Stationed in Ukraine," and his decision to incorporate troops guarding and operating nuclear weapons in the the 43d Missile Army which is already under the command of the Ukrainian military.

The "S" installations which Colonel General Morozov mentions consist in practise of nuclear-technical bases where warheads for strategic ICBM's and long-range cruise missiles for the Tu-95 and Tu-160 heavy bombers are kept, and where monitoring and scheduled inspection and maintenance work is carried out. It is known that there are around 1,240 of the former, and over 600 of the latter in Ukraine (which is somewhat more than England, France, and China together.)

Admittedly, a proportion of the warheads are on the SS-19 and SS-24 strategic missiles on combat standby, while others are in storehouses, and the cruise missiles are at airfields where the strategic bombers are based.

The Ukrainian defense minister's order countermanded a directive by his Russian counterpart to disband nuclear technical units and placed their facilities wholly at his own disposal, including in the sphere of finance and rear services provision: It established new organizational-official structure for them, and prescribed a number of measures for preparing to receive for storage the first 60 warheads to be removed from the SS-19 missiles being withdrawn from Ukraine, namely from Khmel'nitsok and Pervomaysk, Nikolayev Oblast (IZVESTIYA No. 132).

It is known that, while agreeing to dismantle these missiles not through any considerations of "goodwill" but primarily owing to their hazardous technical condition, Ukraine has retained for itself the nuclear warhead sections. The minister's order refers primarily to two nuclear bases located in the village of Makarovo near Kiev, and near Kirovograd, where these warheads will be placed.

The editorial team learned that these bases are now empty, the Russian officers have left, and the last echelon departed several days ago—there are just 11 men left, and they will hand over buildings, hardware, and other property without which the facilities cannot function to their Ukrainian colleagues, indeed to their own colleagues with whom they previously stood side by side.

Some Russian military leaders doubt that the Ukrainian generals and officers will be able to fully carry out all the necessary organizational-technical and technological measures connected with the normal operation of these facilities by dint of the state's lack of sufficient material and financial resources and experience of such work, and that this significantly increases the risk to their nuclear and ecological safety. But other experts in the sphere of nuclear weapons with whom I managed to speak believe that despite the existence of such a risk, Ukraine and its experts are totally competent. Although, of course, it will require enormous economic efforts to make the nuclear weapons completely operational [v polnoy mere ekspluatirovat yadernoye oruzhiye].

Furthermore, despite Konstantin Morozov's statement that Ukraine is not conducting work to glean codes for nuclear warheads and that it is not retargeting the strategic missiles on its territory, they claim that in six months at most the Ukrainian leadership will know these codes, and that it goes without saying that there will be changes to the missile flight programs.

It is probable that it is just such confidence which allows the Russian leadership to assert that "Kiev's policy, which is causing concern in the world, entails truly serious consequences for international stability and safety, and for the entire system of international relations" and that "by declaring itself a possessor of nuclear weapons, Ukraine is violating international obligations undertaken by it in respect of its nuclear-free status and is thereby throwing down an open challenge to international law and order and sowing legal nihilism in international relations."

The statement asserts that this stance "does not accord with the obligations undertaken by Ukraine in respect of withdrawing nuclear weapons from its territory with the aim of dismantling and destroying them by the end of 1993."

To reiterate without the diplomatic jargon, the Russian Government's new statement proves: Russia is washing its hands of all responsibility for the nuclear weapons deployed on Ukrainian territory, and that Kiev is not only de jure but de facto becoming the possessor of the most terrible weapons of mass destruction, unceremoniously breaching the international-legal procedure for their non-proliferation.

### Kozyakov on Ukraine's Attitude on its Nuclear Weapons

LD0608215693 Moscow Radio Moscow World Service  
in English 1810 GMT 6 Aug 93

[Commentary by Vladislav Kozyakov]

[Text] More signs have appeared that Ukraine's attitude to nuclear weapons on its territory is becoming a destabilizing factor in international relations. Vladislav Kozyakov has written the following:

On 2 July the Ukrainian Parliament declared nuclear weapons of the former Soviet Union deployed on its territory the republic's property. Then the Ukrainian Defense Ministry took a decision to include troops that guard nuclear arsenals into its 43rd Army. So Ukraine has established direct control of nuclear weapons, namely 176

long-range missiles and 37 strategic bombers. And all of these weapons continue to be targeted at the United States. Moscow is deeply concerned about the move of Ukraine. The statement of the Russian Government published this week says that Ukraine's policy has endangered international stability and security.

A carefree attitude to the international commitments that Ukraine took as an independent state is also alarming. It has notably violated the Lisbon protocols to the START I Treaty. In keeping with the protocol, Ukraine agreed to join the Nuclear Nonproliferation Treaty as a nonnuclear state. It also violated the commitment on a withdrawal of all nuclear weapons from its territory for its [as heard] liquidation by the year 1994. It has disregarded the commitment to ratify the START I Treaty. In addition, Ukraine alleges at present that CC-24 [possibly SS-24] missiles deployed on its territory are not liable for destruction under the START I Treaty and require a special agreement. Yet in May last year the Ukrainian president, in the letter to the then U.S. President George Bush, promised to liquidate all nuclear weapons in the republic.

Kiev seems to be aware that its inconsistent policy runs counter to the wish of the international community to prevent an expansion of the Nuclear Club, hence its unexpected decision to dismantle two CC-19 [SS-19] missiles that was timed to coincide with the recent trip of Ukrainian Defense Minister Konstantin Morozov to the United States. But this has actually changed nothing. The decision helped Ukrainian leaders to get some money from the Americans for dismantling missiles, but it proved unable to remove the other party's apprehensions about Ukraine's loyalty to its commitments in respect to nuclear weapons.

Proof of this is the statement of U.S. Defense Secretary Les Aspin, which he made during a signing ceremony of the Ukrainian-American military agreement. He said nuclear weapons in Ukraine remain a key problem and Ukraine had commitment in respect to these weapons under the START I Treaty and the Nuclear Nonproliferation Treaty. All the countries, including Ukraine, wish to consolidate security in the world. Kiev, for one, can contribute to this end by observing commitments with respect to nuclear weapons and by respecting international agreements.

### Renegotiation of START II Terms Urged

PM2907094793 Moscow KRASNAYA ZVEZDA in Russian  
29 Jul 93 p 3

[Article by Gennadiy Khromov, expert on disarmament issues of the Russian Federation Committee on Defense Sectors of Industry, under "Viewpoint" rubric: "What Is Needed To Make the START II Treaty a Reality"]

[Text] I am aware that the title of my article could cause bewilderment. What do you mean?—the reader has a right to ask. For the Treaty on the Further Reduction and Limitation of Strategic Offensive Arms was signed by the leaders of Russia and the United States long ago. What are you saying?

First, that the START II Treaty essentially cannot come into force until the START I Treaty has come into effect. But the latter event depends on the decision of the Ukrainian leadership and Supreme Soviet, which are continuing

to issue ambiguous statements on their position with regard to nuclear weapons and are certainly in no hurry to ratify the document, to which Ukraine became a party after the breakup of the USSR.

Second—and this, obviously, is the chief point—the START II Treaty has still not been ratified by the Russian Federation Supreme Soviet. Yes, to judge from the debate in the press and the speeches of Supreme Soviet deputies and leaders, it is hardly likely to be approved in the form in which it was signed and submitted for approval.

There are many reasons for this. There is the conflict between the executive and legislative branches of power, which is on everyone's lips. There is the complexity of the treaty itself, which affects our fundamental security interests. There are the disagreements over many of its provisions between the Ministries of Foreign Affairs and Defense on the one hand and a number of representatives of the body of deputies on the other.

What would I like to say in this connection? The START II Treaty is not an act of a single moment or of this minute. It has a lengthy period of validity, and its significance is really crucial. Therefore it is not too late even now, I believe, to continue its extensive discussion.

I share the majority of the arguments of the treaty's defenders. But it is a bad thing, in my opinion, that they sometimes overlook its weak points, confining themselves to references to the fact that any agreement of this kind represents a set of compromises reached by the parties to it in the course of negotiations. Instead of this, we ought to seek the way out of the situation along with critics who absolutize the treaty's weaknesses.

It is already obvious, for example, that a country where living standards are continuing to fall, the education and health care systems are collapsing, science is dying, and plants are coming to a halt cannot manufacture new ICBMs, SLBMs, and heavy bombers in quantities enabling it to ensure the arms levels laid down by START II. At the same time, under the terms of that same treaty, it will be forced to destroy arms—above all, certain types of ICBMs with multiple reentry vehicles—which remain serviceable. But the United States is able to reach the treaty levels for the number of warheads practically painlessly (4,250 by the end of the seven-year period and 3,500 by the year 2003), without producing any additional missiles or aircraft. Thus, if the treaty came into force in the form in which it was signed, our country would virtually find itself in an unequal situation with regard to the United States—not in terms of the number of warheads but with regard to the terms of its implementation.

Is there a way out of the emerging situation? Yes, there is. In my opinion, for example, it would be possible, without changing the essence of the treaty, to put to the United States the question of postponing the implementation of some of its provisions (the elimination of ICBMs with multiple reentry vehicles, limitations on the total levels of warheads for ICBMs and SLBMs) until a later time than that envisaged. An additional four to seven years would noticeably lighten the burden pressing down on our country. Within the new time frame it would be far easier for us, without resorting to excessive expenditure, to achieve the aims envisaged in the treaty.

People might object to me that the START II Treaty, indicating specific parameters and deadlines, has already been signed. True, it has been signed. But it has not yet been ratified, and so it is not yet too late to think about improving it. There have been such precedents. Thus, in 1987 the USSR and U.S. presidents solemnly signed the Treaty on the Elimination of Intermediate and Shorter-Range Missiles. The U.S. Senate declared, however, that it would not approve its ratification until this 12-point document had been corrected in additional talks with the USSR. Those talks took place in May 1988, and solutions acceptable to both sides were found. The exchange of instruments of ratification took place 1 June.

Why, then, can we not do likewise now? Particularly if you consider that in the course of the work on START II the style of preparation of such complex and fundamental documents which we had evolved in previous years was somehow imperceptibly lost. Both the instructions for holding talks and draft documents used to be drawn up on a broad interagency basis involving the military, diplomats, representatives of the intelligence and security services, and industrial specialists. As a result, it was possible to avoid a narrow departmental approach and to formulate a unified opinion. But when decisions were adopted on the basis of the leader's willful proposals, mistakes were made which cost us too dearly. This was the case, for example, with the elimination of the Oka missiles. This must not be allowed to happen again.

#### **Russia: Surface-to-Air Missiles To Be Dismantled in Far East**

*OW2907125593 Khabarovsk Radio Khabarovsk Network in Russian 0845 GMT 29 Jul 93*

[From the "Kray News"]

[Text] Major General Aleksandr Lomatenko, deputy commander of the (second) army for (anti-aircraft weapons) told our correspondent that almost 2,000 surface-to-air missile warheads along with their airframes will be recycled during the course of reduction of anti-aircraft points at combat posts in the region. The recycling of the warheads, which includes the extraction of precious metals, will be carried out by specialists of this army at the deployment locations of the anti-aircraft missile battalions.

#### **Supsov Dep Gen Tolupko: N-Arms To Buy Time To Build Modern Defense**

*93UM0689A Kiev NARODNA ARMIYA in Russian 9 Jul 93 pp 1-2*

[Article by Lt-Gen Vladimir Tolubko: "Questions of Nuclear Weapons, Space, and the Fleet Must Be Resolved Immediately"]

[Text] *Vladimir Borisovich Tolubko was born on 3 September 1948 in the city of Krasnograd in Kharkov Oblast. He finished the Kharkov Higher Military Command School for Missile Forces, the Military Engineering Academy imeni Dzerzhinskii, and the military academy of the General Staff. He commanded a crew and a launch group and headed a regiment staff. He was a Regiment Commander from 1978 through 1982 and from 1982 through 1984 he*

*was Deputy Commander of a Division. He was a Division Commander from 1986 until 1991. In August 1992, he became head of the Kharkov Military University. He is a People's Deputy of Ukraine.*

According to forecasts by special services of the United States (DER SPIEGEL, No 35 for 1992), 12 regional wars may develop in the territory of the former Soviet Union if the economic collapse is not stopped. They will cause the deaths of 523,000 soldiers and lead to 21.7 million refugees. There will be 88 million victims of hunger and 4.2 million who will die from diseases.

At the present time in the United States, they foresee a minimum of five versions of an invasion in Russia, Ukraine, and other countries of the CIS in the event that this is necessary! And they are making no special effort to hide this....

For this reason, the ratification of "START-1" must be seen in the complex of all military questions to guarantee the national security of Ukraine. I mean the problems of nuclear weapons, space, and the Black Sea Fleet.

The military capabilities of the future armed forces will be determined by strategic nuclear deterrent forces, military space forces, highly accurate weapons, and weapons based on new physical principles. Precisely they will determine the structure and the quantitative and qualitative composition of the armed forces.

In examining questions of military development, we must proceed on the basis of the considerations of the guaranteed defense of the state, minimum necessary expenditures, the utilization of up-to-date arms, and the real military and political situation and willingness for reciprocal compromise.

At the present time, the Armed Forces of Ukraine are still unwieldy, have an inadequate command system, are poorly equipped, and to some extent are disoriented because of the poorly defined and sluggish reforms, the unending personnel turnover, and acute questions in the social security of servicemen.

The army is undergoing a painfully protracted period of development.

Under these conditions, what is the basis for the provision of the national security of Ukraine in the military area?

It has been generally recognized and confirmed by many years of experience that nuclear weapons are the most effective deterrent and guarantor of the security of a state. The historical development is such that today Ukraine is a state that possesses an enormous nuclear potential (the third strongest in the world in terms of destructive power!). Based on the interests of national security, there is no alternative in the near future to the preservation of nuclear weapons in the composition of our armed forces.

As the bitter experience of Belarus shows, in the words of Valeriy Tsepkalo, adviser to the chairman of the Supreme Soviet of Belarus on questions of foreign policy, "Belarus became uninteresting to the West when it declared itself a nonnuclear state...." The West promised \$65 million for the dismantling and removal of nuclear weapons but they immediately forgot their promises after the parliament of



Belarus ratified the "START-1" Treaty and declared themselves a nonnuclear state. It is my view that there is no price for freedom.

And since that is the way things are, there are two alternatives for our use of this military power.

In the first version, a decision is made on the establishment of our own nuclear industry. In the final analysis, this will permit Ukraine to become fully independent of anyone in questions of nuclear arms and to provide our army with the necessary arsenal of nuclear weapons. But the realization of this version requires significant expenditures of resources and time.

The second version is based on the principles for the provision of national security that I named and presupposes the signing of bilateral agreements with the Russian Federation based on equality and mutual interests. It is a matter of the joint exploitation and utilization of Ukrainian nuclear weapons. In the case at hand, the strategic nuclear forces are administratively subordinate to Ukrainian command and their forces are made up of our citizens. Their military use is planned and carried out, if necessary, under the control of the presidents of the two states. Such a version of the utilization of nuclear weapons, in my view, guarantees us security and military invulnerability for the time that the treaty is in effect—invulnerability against any attacks, even if the independent policies of Ukraine do not please some among the organizers of the "new world order." Russia and the United States will actively oppose not only the waging of nuclear war but also the unleashing of local conflicts in our territory utilizing conventional weapons as well as the provocation of internal disorders in Ukraine. Why?

Russia will be forced to defend the territory of Ukraine because a nuclear conflict against us will not by-pass it either as a neighbor, whereas the military possibilities of 46 of the 176 Ukrainian missiles are almost equivalent to the nuclear power of one-half of the American land-based missiles. On the other hand, America will not be able to do to us what it did to Grenada, Yugoslavia, and Iraq, because it will be inadmissible for it to use methods of force in the unleashing or support of aggression against a state in whose territory are strategic missiles that may also be aimed at it.

"Wars by-pass strong states," asserts Margaret Thatcher. And in this case she is right a thousand times over.

Considering, therefore, the interrelationship between the nuclear weapons of Ukraine and its national security, I will state my view of the problem of the ratification of the "START-1" Treaty. Nor will I refrain from one quote, this time from the French prime minister. His lips stated that France "...approves the proposal...on nuclear disarmament. We ourselves will go in this direction but after the nuclear potentials of the United States and Russia become comparable to those of France." So why should we not put the question in an analogous way? To oblige what forces or under pressure from whom are we aspiring to declare ourselves a nonnuclear state? I will not try to answer these questions but I do consider the following sequence of actions in the resolution of the problems linked with the ratification of the "START-1" Treaty to be expedient.

At the present time, Ukraine has no legal obligations to the world community with respect to nuclear weapons. There are two possible variants of a parliamentary decision on the question of the nuclear missiles of Ukraine. Before either of them is passed, Ukraine declares itself a nuclear power on the basis of the 1983 Geneva Convention, in which it is made clear that all components of nuclear weapons in the territory of any state are its full or shared property.

Under the first variant, Ukraine ratifies the "START-1" Treaty and the Lisbon Protocol to it but under the following conditions:

1. Ukraine postpones the decision on the question of joining the Nonproliferation of Nuclear Weapons Treaty of 1 July 1968 until mid-1995, when an international conference and the existing realities will determine its further fate.
2. Signs the memorandum of the four nuclear states of the CIS on limits and restrictions in accordance with the "START-1" Treaty and the Lisbon Protocol.
3. Ratifies the Minsk agreement on the status of strategic nuclear forces, thereby removing the amendment to Article 10 by the president (because of the economic and technical possibilities of Ukraine), where the period for the elimination of the nuclear munitions of Ukraine is limited to 1994.
4. Ukraine signs with the Russian Federation a bilateral agreement on the entire complex of military-technical and military-economic questions.

Under the second variant, Ukraine does not ratify the "START-1" Treaty and makes a decision on the future of nuclear missiles on the basis of bilateral and multilateral agreements. In so doing, we independently determine the necessary number of launchers and missiles with nuclear armament that will be located in the territory of Ukraine.

In adopting either of the two decisions in the interests of our national security, the most probable and preferable partner for the signing of a treaty on nuclear missiles for Ukraine is Russia. Such a treaty would make it possible for Ukraine to be under the cover of nuclear missiles as a deterrent against external aggression.

Under these conditions, security guaranteed by nuclear weapons will make it possible for us to reduce significantly and reform our national armed forces, to obtain necessary resources, and to gain time for the establishment and rearmament of the army with new and up-to-date types of weapons, including highly accurate weapons and those operating under new physical principles. In terms of their military effectiveness, such weapons are equivalent to nuclear weapons in the event that they are used against state and military command facilities, enterprises, and installations of the nuclear and chemical industry. Having means of waging war that are capable of replacing nuclear weapons, we will have a basis for the future examination of the question of the renunciation of nuclear weapons without unilaterally declaring ourselves a nonnuclear state. During this time, if the appropriate decision is made, it will be possible to establish a nuclear industry.



To support the arguments in favor of the examined version, I want to say a few words about the economics of nuclear weapons, which they do not talk about at all or distort.

According to Deputy Defense Minister of Russia A. Kokoshin, "missile forces are the least expensive branch of armed forces from the point of view of their maintenance. They are capable of performing 60 to 100 percent of strategic tasks but require only 5 to 6 percent of the entire defense budget." It is difficult not to agree with this, considering that last year in the Ukraine the expenditures for the maintenance of the missile forces amounted to 3.9 percent of the military budget, whereas this year they should amount to about 1.1 percent!

At the same time, it is necessary to consider that we are talking about expenditures for the maintenance of 176 intercontinental ballistic missiles, although in accordance with the above-named considerations it is sufficient for us to limit our nuclear arsenal to just 46 missiles of the latest class, the production of which has essentially been organized at Ukrainian plants. The remaining 130 missiles can be eliminated, demonstrating a historically unprecedented act of good will. In so doing, by making effective use of the missiles, fuel, and warheads, one can obtain a substantial economic gain. The silos remaining after their destruction and the entire infrastructure that was established for them can be utilized for the deployment of nonnuclear systems of highly accurate weapons.

In so doing, it is necessary to link all questions with respect to nuclear missiles with the signing of a treaty with Russia, under which it would obligate itself to purchase missiles in Dnepropetrovsk that in the former Soviet Union were planned for the rearmament of the strategic missile forces. This will certainly be of great economic advantage to Ukraine.

The second of the problems that I am considering is the problem of the utilization of space. As the experience of the war in the Persian Gulf showed, it is essential to have various space systems and developed computer technologies for the effective use of highly accurate weapons. It has long been necessary to understand and raise the question of the division of the Black Sea Fleet just as insistently and sharply as Russia and to raise the question of the division of space systems! Today this is one of the most important and urgent questions in the context of the principles for the guaranteeing of the national security of Ukraine.

At the present time, an orbital space grouping made up of about 200 space vehicles has gone under the jurisdiction of Russia, although Ukraine has legal rights to 16.7 percent of this grouping.

Based on the principles of reciprocal compromises, in exchange for concessions by Ukraine in the area of nuclear missiles and the resolution of the problem of the Black Sea Fleet, Ukraine has the right to demand the division of space vehicles and the inclusion of military space units of Ukraine in the overall control of space vehicles with the subsequent establishment (with the help of Russia) of a national flight-control center.

Ukraine has everything that it needs to retain the status of a space power. This also includes an enormous technical

production complex for the space branch. There is a powerful scientific potential and a developed system for the training of personnel. There are systems for the control of space groupings deployed in Ukraine, into which trillions have been invested and which must and can yield benefits.

Space is a sphere of activity that is giving enormous profits to the space states at the present time. According to worldwide data, every dollar invested in space research yields \$20 of profit. This profit comes from the utilization of space communications channels for governmental, commercial, and banking structures and from the use of the bases and data banks of highly developed states. Thus, for example, space communications yield profits of billions of dollars a year (a 1-minute conversation with the United States costs \$5 and with Europe it costs \$3). Analogous profits also come from the use of space technologies in terrestrial branches of the national economy, in resolving ecological problems, and in research on natural resources, meteorology, and navigation. Today others are receiving this profit but Ukraine could obtain it as well.

In other words, the space activities of the state are evidence of a high level of scientific-technical progress. At the same time, today space guarantees a high combat effectiveness for most systems of military conflict including highly accurate weapons.

Thus, it is obviously necessary to have our own national orbital space grouping with the dual purpose of national economic and military applications. The operation and control of space systems in the interests of the national economy and defense must be accomplished by the Ministry of Defense, which has the necessary technical means and trained specialists for this. Such a dual designation of space systems in the case at hand is still another circumstance that makes it possible to strengthen the national security of Ukraine with minimal expenditures.

About the problem of the Black Sea Fleet. In the former Soviet Union, the Black Sea Fleet performed auxiliary rather than strategic functions, supporting the Mediterranean naval grouping. The fleet of Ukraine, not having a free outlet to the world oceans, may resolve limited military tasks only within the bounds of the waters of the Black Sea.

As of today most of the ships in the force composition of the Black Sea Fleet have actually completed their service life.

From an economic point of view, it is quite expensive for the Ukrainian people to maintain the Black Sea Fleet. At the same time, the contribution of the fleet to the defense capability of the state is insignificant in comparison with the resources invested in it.

It must be recognized that the Russian Navy will not leave the Crimea and we will not drive it away by force, because that would lead to war!

The basing of the fleets of two states at one naval base gives rise to conflicting situations there. For this reason, it is expedient to lease the naval base to Russia for a reasonable time and for Ukraine it is advisable to leave what is necessary for coastal defense and to locate everything at other bases. The leasing of the naval base to Russia must

be linked with the leasing by Ukraine of Russian space ports and test ranges for the launching of space vehicles and the testing of missile and space technology, with cooperation between Ukraine and Russia in the area of the production of missile and space hardware, with the supplying of energy resources and timber to Ukraine by Russia, and with the placement of military orders for the Russian Navy at Ukrainian shipyards.

Time is of the essence! Questions in military and technical policy must be resolved without delay. This is also dictated by the fact that without state orders and prospects for development the military-industrial complex of Ukraine is on the verge of total collapse. But today the military-industrial complex is made up of specialists with the highest qualifications and the most up-to-date production. By destroying the defense industry, we will be deprived of first-rate scientific and technical achievements and of the possibility subsequently to produce the required systems of arms.

To compare: despite conversion, the Americans are not only not reducing outlays for new developments but are increasing them. Their calculation is simple: whatever direction the creative team works, discoveries can occur in the most unexpected areas.

Only five states among the civilized countries are seriously engaged in the development of all types of arms but 195 purchase them! If the military-industrial complex is permitted to collapse, then Ukraine will join the ranks of the buyers of expensive arms. At the present time, we have production of arms and military equipment that is competitive in the world, for example ships, tanks, and missile and space hardware, which can already yield profits for the state.

The conclusion is that nuclear weapons can give Ukraine 10 to 15 years of invulnerability. During this time we will produce precision weapons and a space grouping with its own operations centers and establish a small mobile army equipped with up-to-date and highly effective means of armed combat.

The attitude of the state toward nuclear production will be determined during this time.

It is necessary to remember that the future of defense is being set today and it is necessary to think about it now. Otherwise it will be too late!

### **Union Official Says Grievances Could Halt Scrapping of Weapons**

*PM0608161793 Moscow PRAVDA in Russian 6 Aug 93 p 1*

[ITAR-TASS report from the "Brief and To the Point" column: "Russian Defense Sector Goes on to the Offensive"]

[Text] As of today supplies of spare parts and components for combat equipment, the servicing of military facilities, and the scrapping of armaments as part of international treaties could stop in Russia, Sergey Shuklin, cochairman of the Coordinating Council of the International Trade Union Association of Defense Sector Workers of CIS Countries, informed ITAR-TASS. "The planned action by Russians, supported by defense sector workers in other

Commonwealth countries, is a response to the reluctance of the structures of power to really address our problems."

### **Japan To Create 'Disarmament Aid Committee'**

*93P50261A Moscow NEZAVISIMAYA GAZETA in Russian 3 Aug 93 p 1*

[Text] RIA—There are plans to create a "Disarmament Aid Committee" for Russia, Ukraine, Kazakhstan, and Belarus in Japan in autumn of this year. The newspaper YOMIURI reported this, citing government sources. In April the Japanese government appropriated a \$100 million grant-in-aid for these four countries to finance the dismantlement of nuclear arms which are being reduced. The committee will concern itself with the carrying out of concrete programs in the area in question, in particular with plans to build storage places for plutonium extracted in the course of dismantlement.

## **SPACE ISSUES**

### **Russian Space Industry Faces Underfunding, Mismanagement**

#### **Could Cease Within 2 Years**

*PM0908123193 Moscow NOVAYA YEZHEDNEVNAYA GAZETA in Russian No. 23, 6 Aug 93 (signed to press 5 Aug 93) p 2*

[POSTFACTUM report: "Space Industry Could Cease To Exist"]

[Text] Yuriy Koptev, general director of the Russian Space Agency, addressed Russian Federation Supreme Soviet parliamentary hearings 3 August. He reported that the space sector is currently in a very difficult position. Only 31 percent of the funds planned for 1993 have been allocated, and in any case they have not been indexed. Some 34 percent of the "eggheads"—candidates of sciences, scientists, and specialists—have already left the space industry. The average salary in the sector is 19,632 rubles [R]. Whereas in 1990 defense orders accounted for 65 percent of business and civil orders for 35 percent, nowadays civil orders account for 66.3 percent.

According to Koptev's information, the main engine plants are on the brink of shutting down. The Russian space industry could cease to exist within the next 18 months to 2 years if this attitude toward the sector persists. According to his information, interest in and attention to the sector peaked in 1989, when it was allocated R6.9 billion. He also reported that commercial nonbudgetary sources from Russian commercial structures are not currently proving worthwhile. As soon as commercial structures reach the point of making a real investment, they admit that they are unable to finance the space industry.

According to Koptev, nobody in the space services market today is waiting for Russia, but we continue to be strong when it comes to manned programs. Fortunately, these programs have not been halted, and Russia remains the only country able to offer services in this sphere. Koptev called for the sector to be treated as a national asset. As he put it, space sectors worldwide rely on state subsidies 90 percent of the time. But Russia has essentially left itself

totally unprotected. In his opinion, if Russia had not made the crudest blunders in its reforms, it would currently have had 20-25 percent of the total world commercial market for space services and sales.

### Research Prospects, International Cooperation

LD0508173193

[Editorial Report] Moscow Mayak Radio Network in Russian at 1249 GMT on 5 August broadcasts a 6-minute report by correspondent Vladimir Bezyayev on today's news conference at the Russian Space Agency about the prospects for space research and some aspects of international cooperation in this sphere.

Bezyayev quotes Yuriy Nikolayevich Koptev, director general of the Russian Space Agency, as saying that Russian space research is on the verge of collapse because of shortage of funds. Bezyayev says: "Even the budget that has been approved became operational only from May. Money has been coming in since May. However, calculations were made on the basis of one set of costs and the costs have now completely changed. The Supreme Soviet has adopted a new budget, which seems to suit our space science. It even contains an entry on financing the Baykonur space facility but this topic is likely to be discussed by President Boris Nikolayevich Yeltsin and [Kazakh President] Nursultan Nazarbayev at talks on Saturday."

Bezyayev says Russia's role in the international market was also touched upon. He says: "This market is full. The Chinese and everybody else have got there ahead of us, and our only advantage is to provide launching facilities. Then, if we are going to break into the market, this is scheduled only for 1997-99. There are reasons for that. We do not manufacture good communications satellites, but we do have good launching vehicles. On the other hand, any economic agreement of this kind should be supported by a political decision since there are organizations like the Coordinating Committee for Multilateral Export Controls [Cocom] which, on the whole, are not keen on having us in the international space market."

About the cryogenic engines deal with India, Bezyayev says: "A curious thing transpired. There are 23 countries which have signed this agreement on the nonproliferation of space technologies. At the time, Mikhail Sergeyevich Gorbachev and the U.S. president signed a relevant document. On the whole, I cannot say that we are wrong about the Indian deal. It transpired that as of 1 January this year we introduced similar restrictions on the proliferation of rocket technology, and this agreement was signed without the knowledge of the government or the Supreme Soviet by Glavkosmos [Main Space Technology Directorate], and responsibility therefore rests fully with Glavkosmos, which operates on the basis of financial autonomy, and specifically with [Glavkosmos Director] Aleksandr Ivanovich Dunayev. So finally, when we saw that our country started selling what it should and what it should not sell, our domestic restrictions on rocket technologies were extended

to cover this area, too. On the other hand, neither our country nor the United States uses these cryogenic technologies in the military sphere, because other technologies are much simpler."

Replying to a question by the announcer, Bezyayev reiterates that the decision to modify the deal with India was not taken under pressure from the United States; the deal falls under our own nonproliferation regulations. The agreement to supply cryogenic engines will be fulfilled but technologies will not be supplied. "Thus, it became clear that this was not done under pressure from the Americans."

Finally, Bezyayev says that a \$100 million agreement has been signed under which Americans will work in the Mir orbital complex. In addition, in September an agreement is expected to be signed to enable our scientists to help create the U.S. Freedom international station, and this will be a very lucrative contract for our space industry.

### Work Continues on Mir Space Station

#### Medical Experiments, Onboard Equipment Check

LD3007102793 Moscow ITAR-TASS in English  
0858 GMT 30 Jul 93

[Text] Mission Control Centre July 30 ITAR-TASS—Cosmonauts Vasiliy Tsibliev and Aleksandr Serebrov have worked on board the Mir space station for 4 weeks already, theirs being the 14th main expedition crew to man this "Veteran" space station.

In the past few days, the crew have performed a number of medical experiments and checked the functioning of the onboard equipment.

On Friday, they are scheduled to conduct technical experiments to assess the state of electronic components of the onboard equipment after long-term functioning in a near-earth orbit. The cosmonauts will also assemble new research appliances for further experiments.

According to the cosmonauts' reports and telemetric data the mission is proceeding normally.

#### Vibration Disturbances, Telescope Checks

LD1008162893 Moscow ITAR-TASS in English  
1352 GMT 10 Aug 93

[Text] Moscow August 10 TASS—Cosmonauts of the 14th basic expedition to the orbital complex "Mir," Vasiliy Tsibliev and Aleksandr Serebrov, continue working on board the space station.

Under the programme of astrophysical research they carried out a series of experiments to study the interaction of flows of high-energy particles with the earth's radiation belts. The crew will carry out on Tuesday a technical experiment to measure vibration disturbances on board the station caused by the functioning equipment. The cosmonauts will also make checks of the ultraviolet telescope Glazar-2.

### Mir Station, Progress M-17 Ferry To Undock 11 Aug

LD1108084393 Moscow ITAR-TASS in English  
0803 GMT 11 Aug 93

[Text] Mission Control Centre (Moscow Region) August 11 TASS—The flight of the Progress M-17 ferry together with the Mir space station is nearing completion. Specialists plan to conduct its service life testing during many-month independent flight after the ferry is separated from the Mir station. The station and the ferry will be undocked this evening.

### Space Community Divided Over Future of Buran Shuttle

PM2907112793 Moscow Ostankino Television First Channel Network in Russian 1800 GMT 25 Jul 93

[From the "Novosti" newscast: Video report by Aleksandr Gerasimov, identified by caption, on latest space mission, Buran program]

[Text] [Gerasimov over video of parachute landing of space module] Crews returning after working in orbit always float down to Earth under the dome of a parachute. Doubled up inside a red-hot sphere, barely bigger than one of the "Czar Pushka" ["Emperor Cannon"—16th Century gun in the Kremlin, highest-caliber cannon ever built] cannonballs, the cosmonauts fly to meet their fate. At that moment no one can tell with any degree of precision in what position and where they will land on their home planet—whether it will be lying on their sides in the shade of a sand dune, or on their heads on the edge of a salt-marsh. It all depends on the weather and God's will.

The elegant touchdown of the Soviet space shuttle Buran, which completed its one flight 5 years ago, was a very different sight. Soviet scientists and engineers only had a very short way to go to bring the tests of our shuttle to their logical conclusion, that is flying manned space missions like the U.S. Shuttle. Perestroika came to an end. And the space program fell under the ax of the political passions of electioneering; it was crushed in the press of the economic crisis which was building up in the Soviet Union, as it then was. With the Soviet Union's disintegration the program, which was essentially a superpower program, went down the slippery slope.

This almost complete Buran No. 2, having undergone one-fourth of all the necessary technological tests, has been standing in a deserted workshop at the Baykonur Cosmodrome for a long time now. Next door, Energiya launchers ready for blast-off lie abandoned. One kilometer further on the Cyclopean arms of the launchpads are rusting away. The Russian space program lacks the funds to continue this work. And Kazakhstan, which has nationalized the cosmodrome, has never had that kind of money.

While this grandiose project is aging and growing obsolete, the space community, divided into two camps, is trying to decide the future fate of the Buran. Those who created it are arguing, and not unreasonably so, that it would be stupid to allow an object of national pride, in which incalculable sums of money have been sunk, to turn to dust. Buran's opponents are arguing that it would be no less stupid to continue to spend vast sums of money on a

project for which there is no use. The Buran was originally built on the orders of the Ministry of Defense, which had conceived it as a fitting answer to the U.S. Shuttle. However, the military have long since given up their dreams. The docking unit provided for the Buran on the Mir station is a memento of these dreams.

The Russian Space Agency takes the view that the existing stock of launchers and space vehicles is perfectly adequate for the current near-Earth freight traffic.

The Buran saga mirrors the current political economy of post-Communist Russia exactly. In the absence of state sources of funding for major national programs, the country's leadership prefers to pretend that nothing is happening. No one is willing to assume responsibility for halting specific scientific projects or giving them the go-ahead. In turn, the people working on such projects, having been brought up under the command system, are either, out of habit, waiting for instructions or are trying to preserve the status quo by every means available, even though it does not benefit anyone, while waiting for possible political changes. Meanwhile it is perfectly obvious that such a precarious balance cannot be maintained for long. Given the space rocket industry's average wages of 20,000 [rubles], it is likely that in the very near future there will no longer be any question even of routine planned orbital flights, let alone of the Buran. Then there will be no need for us to feel sorry for cosmonauts returning to Earth in a red-hot sphere barely bigger than a "Czar Pushka" cannonball. [video shows descent module landing and being unloaded, cosmonauts shortly after landing, the two Russians still in space suits, Buran and Energiya in the open, a blast-off, various views of Buran II and Energiya in deserted hangars, rusting launchpad installations, more views of Buran in hangar, closeup of docking unit on Mir, latest undocking, more views of cosmodrome, another view of descent module after it landed]

### Russian-U.S. Space Cooperation Plans Reported

PM2907100193 Moscow IZVESTIYA in Russian 29 Jul 93  
First Edition p 3

[Report by Vladimir Nadein: "Our Space Specialists Move To Work in America"]

[Text] When the meeting between U.S. and Russian specialists ended on Monday, the prospects for joint cooperation between the two countries in the field of space became clearer. For the Russians this cooperation looks so attractive that some observers have considered this generous U.S. compensation for our refusal to supply rocket technology to India.

The figures are indeed promising. NASA intends to spend over \$100 million a year on joint work with Russian colleagues. The program is geared to four years and should end with a joint launch in 1997.

The Indian deal, estimated at \$200-300 million, is obviously not so attractive for the Russian space complex.

First, the Russians will get approximately half of the \$400 million earmarked for NASA through 1997. Second, the supply of rockets to India gears us toward technologies we already have while the Americans set the highest standards both in research and in practical developments.

But a Russian diplomat with a good knowledge of the circumstances of the talks has said that "it would be incautious" to link the changes in the Russian-Indian rocket contract with new prospects of joint work between NASA and the Russian space agency. "It is far more important," this diplomat stressed, "that the Americans, according to their own calculations, will save at least \$1 billion on the use of Russian developments and people. This is not a reward for resolving the conflict but simply mutual advantage."

In the middle of the week approximately 25 more designers and scientists from Russia will arrive in Washington to work in the NASA system. Although some of NASA's international partners (the Japanese, Canadians, and some Europeans) have, according to THE WASHINGTON POST, expressed "reserve over the question of enlisting Russia," one congressman said he is ready to bet "two to one" that the U.S. legislators will approve wide-scale space cooperation with the Russians as NASA's main partners.

### PRC Hopes To Join Russia in Space Exploration

LD0408105193 Moscow ITAR-TASS in English  
1028 GMT 4 Aug 93

[By ITAR-TASS correspondent Pavel Spirin]

[Text] Beijing August 4 TASS—"We hope for close cooperation with Russia in developing artificial Earth satellites," president of the Chinese Academy of Space Technologies, Professor Qi Faren told ITAR-TASS today.

Regrettably, only in the past few years Moscow and Beijing secured a real possibility of interaction in the field of the most advanced technologies, which were closed to outsiders until recently, he said.

However, the rich "space potential" accumulated by Russia and China inspires hopes for a prompt and successful beginning of joint work which would help realize the national space programmes of the two countries, Qi Faren said.

Specific guidelines for such cooperation will be identified in the course of talks between the leaders of the Chinese Academy of Space Technologies and a delegation from one of the leading Russian design bureaus which is due to arrive in the Chinese capital one of these days.

### Russian Space Agency Interested in Cooperation With All Countries

LD0608081993 Moscow ITAR-TASS in English  
0613 GMT 6 Aug 93

[By ITAR-TASS correspondent Veronika Romanenkova]

[Text] Moscow August 6 TASS—Russia is interested in cooperation with all countries in the sphere of aeronautics, but Russia's impact on the world market in this sphere is practically non-existent because of a number of restrictions. Political decisions are needed for Russia to enter that market, where supply is already exceeding demand by about two-fold, Yuriy Koptev, head of the Russian Space Agency, said at a press conference on Thursday.

Russia is a monopolist in providing services dealing with the launching of space vehicles, and it is in this sphere that we could secure for ourselves an important place on the world market, Koptev believes. In other spheres we could not offer real competition to the western countries. For instance, Russia will be able to begin producing satellites carrying most up-to-date electronic and radio equipment only in 5 to 7 years, when corresponding research programmes are completed.

However, we might get substantial profits from what we already have. There is a possibility of making 600 to 700 million dollars on international contracts before 1996. Aside from the agreements currently in effect, new cooperation agreements are being prepared, specifically, those with India and China.

### Russia Seeks Cooperation on Space With India

LD3007142893 Moscow ITAR-TASS World Service  
in Russian 1300 GMT 30 Jul 93

[By ITAR-TASS correspondents Sergey Staroselskiy and Leonid Timofeyev]

[Text] Moscow, 30 Jul—"The latest statement of the Indian side testifies to the fact that Delhi understands the motives which forced us to introduce amendments to the agreement on cryogenic engines," Grigoriy Karasin, the director of the Department for Information and Press of the Russian Foreign Ministry, stated at a briefing here today.

Answering questions of journalists, he expressed hope that "this step, which the Russian side was forced to take, will not affect Russia's many-faceted relations with this great Asian country and our good neighbor. As before, we still advocate further cooperation with India in most diverse spheres, including the sphere of the research and use of space for peaceful purposes."

Russia, the Russian Foreign Ministry representative pointed out, fully understands the exclusive importance of India's peaceful space program for tackling its economic tasks and is prepared to cooperate in the matter of successfully implementing this program, "including the transfer for these purposes of ready space engines, necessary for launching satellites."

The Russian side, Karasin stressed, is working for signing an intergovernment agreement with India on cooperation in the use of space for peaceful purposes in the very near future.

### Russian Space Forces Preparing To Exhibit Range of Equipment

LD3107080993 Moscow ITAR-TASS in English  
0704 GMT 31 Jul 93

[By ITAR-TASS string correspondent Semen Ivanov]

[Text] Moscow July 31 TASS—The Russian space forces are getting ready to exhibit for the first time within the framework of the international airspace show which will be held in Moscow from August 31 to September 5, 1993.

A wide range of military space equipment will be put on view, ITAR-TASS was told at the press centre of the Russian space forces.

The exhibits will include a series-produced Cosmos booster usually fired from the Plesetsk Cosmodrome, the

Glonass spacecraft, the anchor of the global satellite navigation system which is capable of high-precision indication of the position and speed of civil aviation aircraft and fishing vessels.

Meteor-3 is designed to get global meteorological information in different parts of the spectrum, to monitor the state of the radiation background and the Earth's ozone layer.

The Luch spacecraft is intended to maintain the satellite retransmissions of television and wideband information from Soyuz TN manned spacecraft, the space station Mir. [sentence as received] Also on view will be a Cosmos landing module.

## CONVENTIONAL FORCES IN EUROPE

### Plasma Cutting Aids Destruction of Aircraft

PM2907092193 Moscow KRASNAYA ZVEZDA in Russian  
28 Jul 93 p 2

[Vasily Fatigarov report: "We Learned How To Build Aircraft, Now We Are learning How To Destroy Them: Plasma Cutting Technique Tried Out for First Time at Center in Rzheva Where Air Defense Planes Due To Be Reduced Under Treaty on Conventional Forces in Europe Are Being Scrapped"]

[Text] It has turned out that cutting decommissioned aircraft into scrap metal is indeed a major problem. The traditional technique of cutting metal by gas is not very appropriate here. Primarily because of the speed of the process. Furthermore, you need a pretty large quantity of acetylene and the gas cutting torch greatly warps the metal and burns out the alloying agents.

The center in Rzheva has tried out for the first time the "Vityaz-40" plasma unit created by specialists from the "Rokot" joint-stock company. Its cutting torch can make a cut almost half a meter long through metal 30-40 mm thick in a minute. For comparison's sake: In the same time a conventional acetylene torch can make a cut just 10-15 cm long in metal. According to the specialists' estimates, plasma cutting makes it possible to reduce the cost of the process of recycling aviation equipment by a factor of 25-30.

Extract from KRASNAYA ZVEZDA's file: "Rokot" is a joint-stock company (its director is Lieutenant Colonel Valentin Kortseyev, retired) and is a structural subdivision of "Soyuz," the Armed Forces Veterans Association.

The task which "Soyuz" has set itself is to develop efficient ways of recycling military hardware. Here for example they have a method of separating electronic equipment which preserves the radio components and microcircuits intact. They have developed techniques for turning aircraft scrap metal into aluminum radiators for buses and are ready to produce armored bank trucks based on airborne fighting vehicles.

"Of course, the 'Vityaz' unit, like any innovation, is not without its defects," Major Nikolay Koshelenko, chief of the aircraft destruction center, commented, "but it is indispensable to us. Furthermore, with its help I am confident that we can dismantle tanks and infantry fighting vehicles too."

After that I asked whether there are similar units elsewhere in the world.

"Yes, there used to be... here. We bought one from a Russian-U.S. joint venture but it proved unreliable and is almost 10 times as heavy. We had to abandon it."

According to the center chief, the "Vityaz" has another quite considerable quality.

"Just look," Koshelenko suggested, "how accurately the unit cuts through the metal. The heat-affected zone is kept to a minimum. You can cut out assemblies such as ring frame supports, stringers, and lugs without deformation. And all these are in short supply in the national economy. Not to mention hydraulic drive components—hydraulic cylinders, pumps, and regulating valves."

It is noteworthy that the "Vityaz" received rave reviews from the military observers from the United States, Britain, Germany, and France who were present at the tests. On the day in question, Colonel Roland Michael Mathison, observer group leader from Britain, and Colonel Yevgeniy Kalinichev, leader of the Russian escort group, signed a protocol on the destruction of the first four fighter planes. It is planned to destroy around 70 planes this way in the near future.

### Conventional Weapons Dismantling Continues in Belarus

WS0508095493 Minsk BELINFORM in Russian  
1259 GMT 4 Aug 93

[Text] While in the Borisov tank-repairing plant dismantling of armored equipment is proceeding in accordance with the CFE treaty, and in other Belarusian bases, aircraft fighters and armored personnel carriers are being ripped apart with welders, there has been another lull in the NATO military inspections. But the inspectors will certainly arrive again to officially and scrupulously witness that independent Belarus has gotten rid of yet another dozen units of dangerous military equipment.

As a BELINFORM correspondent learned at the National Agency for Control and Inspections [NACI], the next NATO military experts' "commando" is expected to arrive on 16 August, when in the "Lesnaya" military base for aircraft equipment dismantling in the vicinity of Baranovich, another MIG-27 fighter will be torn into pieces of scrap metal.

The NATO inspectors will also be witnessing the completion of the regular dismantling session of tanks and infantry fighting vehicles in Borisov. After that, they will set the beginning of a new period.

NACI Chief, General Major Viktor Vakar, told a BELINFORM correspondent that scientists and military engineers from the Defense Ministry managed to significantly improve the arms dismantling technology during the completion of the CFE treaty, which remarkably helped to cut down the consumption of oxygen and other components that burden Belarusian taxpayers.

## CHEMICAL AND BIOLOGICAL WEAPONS

### Yeltsin Orders Establishment of Chemical Arms Commission

LD1008105393 Moscow ITAR-TASS in English  
1051 GMT 10 Aug 93

[By ITAR-TASS correspondent]

[Text] Moscow August 10 TASS—In order to ensure the fulfilment of Russia's international commitments to destroy chemical weapons, Russian President Boris Yeltsin has ordered the Council of Ministers—Government of the Russian Federation to set up within a period of one month a government commission to select grounds for siting installations to destroy chemical weapons on Russian territory, the press service of the Russian President reported today.

The order stipulates in particular that in keeping with the Russian legislation installations to destroy chemical weapons should be sited in areas indicated by the above-mentioned commission and approved by the Russian president.

## WEAPONS CONVERSION

### Problems, Risks in Nuclear Sub Dismantling

PM1108104793 Moscow Russian Television Network  
in Russian 1325 GMT 6 Aug 93

[From a 28-minute Arkhangelsk Television Company video report entitled "Secret Diagnosis" and broadcast as part two of a three-part series under the general heading "Against the Nuclear Threat," figures in brackets denote broadcast time in GMT in hours, minutes, and seconds]

[Excerpts] [passage omitted] [Narrator over video of nuclear subs moored under the St. Andrew's flag at Severodvinsk, followed by Severodvinsk street scenes and the Northern Machine-Building Enterprise] The serious radiation accident on the K-19 submarine was the first but by no means the only such accident in the history of the nuclear fleet. There are at least three known cases where nuclear submarine reactors revealed their awesome temper at the quayside of ship repair plants and technical bases.

This is Severodvinsk, the home of the mysterious plant "X" where the first Soviet nuclear submarine, K-3, was launched in 1957. Plant "X" is in fact the Northern Machine-Building Enterprise [Severnoye Machinostroitel'noye Predpriyatiye].

[video shows moored submarines] On 12 February 1965, during preparations for unloading the core from the K-11 submarine in Severodvinsk, an uncontrollable power excursion occurred which was followed by a steam and gas discharge and a fire. During the operation to put out the fire, the reactor section was flooded. The result was 350 tonnes of highly radioactive water. Another 150 tonnes flooded the turbine section. In order to prevent the submarine from sinking, the radioactive water was pumped overboard within the plant perimeter. The submarine stayed afloat. But the reactor section had to be removed and replaced. Just as two years earlier on the K-19. Five

years after the accident in Severodvinsk, a similar accident occurred at the Krasnoye Sormovo shipyard in Nizhny Novgorod, or Gorkiy as it then was. An unauthorized startup of the reactor on a submarine under construction was followed by a radioactive discharge and a fire. There is no open-source official information about this incident. Many specialists claim that the suppression of this sort of information is fraught with the danger of such accidents repeating themselves. On 10 August 1985, during the reloading of a reactor at the Shkotovo-22 Pacific Fleet Repair Yard, the same type of accident occurred in the same sequence, owing to the same carelessness. [passage omitted]

[Narrator over video of stills of ill-fated submarine] Eight years have passed. The fate of the submarine which was involved in this accident has still not been decided. The nuclear fuel is still on board.

[Narrator over video of submarine at sea] Incidentally, scientists took 13 years to decide the fate of the Northern Fleet's K-27 submarine. This submarine was unique at the time. It was driven by two reactors; liquid metal—a special mixture of lead and bismuth—was used as the heat transfer agent. On 24 May 1968 one of the reactors blew up [poshel v rasnos]. The radiation situation in the power-plant and adjoining sections deteriorated sharply. Many crew members were irradiated while the submarine was limping back to base. Five submariners died as a result of the radiation dosages they received. After many years of unsuccessful attempts to get the submarine back in service military specialists and theoreticians at the Physics and Power Engineering Institute in Obninsk, Moscow Oblast, decided to have the K-27 towed to Novaya Zemlya and scuttle it in Stepovogo Bay; complete with the nuclear fuel which had not been unloaded.

By the early eighties this was a well-rehearsed procedure in the Navy. Radioactive waste was accumulating on shore. There was nowhere to store the reactors which had been involved in accidents. Power-plant sections which had been removed from submarines were taking up space at the quayside. What better solution than to cover the tracks. Back in 1965-1966, after only short storage, the reactor sections of the K-10 and K-11 were towed to Novaya Zemlya and sunk in Abrosimova Bay. The ocean is vast, it will hide anything.

[Narrator over video of Arktika icebreaker] At the time when the central newspapers were triumphantly reporting the launches of new nuclear-powered icebreakers and the commissioning of new research and industrial reactors, nuclear submarines were quietly and systematically coming off the stocks in Severodvinsk, Leningrad, Gorkiy, and Komsomolsk-na-Amure. Meanwhile technical support ships and barges filled with radioactive waste were steaming toward Novaya Zemlya.

To the dangerous radioactive waste deliberately buried in the seas by people it is also necessary to add what ended up on the ocean bed against their will. Our Navy's peacetime losses comprise three nuclear submarines which have taken down with them five nuclear reactors and 33 nuclear strategic missile and torpedo charges. Raising the submarines is problematic. And what would we do with them on the shore, where more than enough radioactive waste has



already accumulated at bases and plants? [video shows rusting storage facilities] Existing technical facilities cannot cope with processing these quantities. Storage facilities are chock-full. Many of them are in a calamitous state.

An even more serious problem are the decommissioned nuclear submarines.

[L. Salnikov, commander of the White Sea Naval Flotilla, subsequently identified by caption, speaking over video of interior of a submarine] During the current year around 100 of the Navy's submarines are to be decommissioned and dismantled.

[Narrator] What is to be done with this large number of submarines?

[Salnikov] Well, first of all I must say that the weapon systems have already been removed from them as agreed. Now the main task is to remove the reactors. This is, well... this is the biggest danger they hold. Having a reactor aboard when a large number of the systems which guarantee complete fire and explosion safety, radiation safety, nuclear safety, have already been partially decommissioned or even removed from individual submarines... well, in these circumstances it is desirable to remove the reactors as quickly as possible. After that we can move on to dismantling the subs altogether; that is, sectioning them and turning them into scrap metal. The main reason for dismantling being delayed is that our possibilities for removing reactors are limited. We are unable to unload and remove them.

[Uniformed officer subsequently identified by caption as I. Oliferenko, commander of a floating workshop, over video of interior of waste storage facility] We are here in a storage facility for spent nuclear fuel. The spent fuel is removed from nuclear submarine reactors and placed here in the storage facility. Each compartment contains fuel from seven fuel channels. The problem is that the Northern Fleet's storage facilities are essentially chock-full with spent nuclear fuel.

[V. Petrushenko, "Zvezdochka" machine-building enterprise chief engineer, subsequently identified by caption, speaking over video of rusting gate and storage facility in the background] Our No. 162 facility, as we call it, is a facility for the storage of solid radioactive waste. It is already 86 percent full. It was built in 1962. The issue of the shipping out of solid radioactive waste from the territory of our enterprise also remains unresolved. The Northern Fleet only has one vessel capable of carrying out such tasks, and this ship is being overhauled until the end of the current year. This means that our situation is not likely to improve this year either.

[Narrator over video of moored submarines] Nonetheless, nuclear submarines continue arriving for repairs. They are all somewhere here, in the vicinity of the city, waiting their turn.

[Oliferenko] This is true not only of the submarines which are arriving, but also of those which have been here for a long time, waiting for the fuel to be unloaded and dispatched for storage. They are also waiting around here because we have nowhere to store the spent nuclear fuel.

[Yu. Kasatkin, submarine division commander, subsequently identified by caption, speaking over video of moored old submarines] Here at the No. 1 pier there are a number of the division's submarines which are waiting to be dismantled.

[Narrator] How long have they been here?

[Kasatkin] Well, it varies from, say, 5 to 10 years. The fuel from these submarines has still not been unloaded. All the reactors still contain the fuel.

[Narrator] How dangerous is this, generally speaking?

[Kasatkin] It is difficult to say. This process has not been fully researched, of course, but I think that over a long period... [changes thought] ...something might happen to the hull, or the reactor, and so on. But I cannot give any precise indication. The reactor itself, the hull of the submarines themselves of course have a limited lifespan. Naturally, we have staff here to ensure the survivability of the submarines, to keep them afloat, to ensure explosion and fire safety. But of course, all this can be done for a limited period. The submarines cannot be kept here forever, for a long time. Ensuring that they stay afloat will be relatively difficult. Should a submarine sink right here at the pier, you understand that would be a relatively serious matter. Sea water would come into contact with the reactor and with all the systems and mechanisms, and, naturally, the reactor would develop leaks.

[Narrator over video of plant building and facilities] This is the once ultra-secret Severodvinsk "Zvezdochka" machine-building enterprise. Built in the fifties, it was intended mainly for overhauling and modernizing nuclear submarines. For many years a specific procedure under the arms reduction treaties—the removal of the missile tubes from submarines—was carried out here.

[L. Salnikov, speaking over video of missile tubes, later to camera] This is what happened, initially under SALT I and SALT II [OSV-1 and OSV-2]. And although SALT II [OSV-2] has not been ratified, it is being implemented both by us and the United States [as heard]. It is being implemented, and there has not been a single incident of one country accusing the other of failing to implement it. So how is it done in practice? We have an agreement with them that two days before testing a new submarine, we have to take an old missile submarine to Severodvinsk and open the missile tubes so that satellite photographs can be taken to prove that the missiles have actually been removed. Two days are allowed for the filming. And when the world has been able to convince itself that we have decommissioned a submarine, we had the right, and we still have the right, to launch a new submarine. The number of submarines, missiles, and warheads has been agreed. And neither we nor they have the right to exceed these numbers.

[A. Grishko, deputy chief contractor, identified by caption, initially over video of missile sections] In the past there were no financial problems to speak of. But as of last year, and especially this year, we have serious problems. I can tell you that as of this moment our client owes our enterprise for work that has already been carried out—I stress, dismantling work that has already been completed—in the region of 1 billion rubles. We carry on



working, but we in turn also owe money, for example to "Arkhenengo" for the use of electricity. "Arkhenengo" is constantly threatening to cut off our power supply. If that happens we will have to suspend the work on dismantling missile sections. We will not be able to carry out this work in full and this means that we will fail to meet our commitments under international treaties, under the arms reduction treaties.

[Salnikov to camera and over fuel unloading operation] It's already mid-July and the budget for 1993 has still not been approved. I repeat, 1993. There has been no budget and the plants have been working "on account." The Navy now owes so much money that we cannot imagine how we will carry on working with them.

We no longer use electricity from "Arkhenengo" in our general network here in Arkhangelsk Oblast. Our supply has been cut because we are unable to pay the 198 million which we owe. Without any warning our power supply was cut regardless of the fact that without electricity the explosion and fire safety, the radiation and nuclear safety of these submarines cannot be guaranteed. They cut off the power supply to storage facilities of actual weapons which we are preparing for submarine tests. Can you imagine, a crane was working, unloading a reactor core, and suddenly there was a power cut. Fortunately, we do have a backup power supply system on ships and ashore. But what if anything were to happen aboard a ship, if the automatic switch from the shore system to the ship system did not take place while such a dangerous cargo is in a precarious position? People simply refuse to think about this, they either do not want to hear how dangerous this is, or perhaps they are doing it deliberately—I have no idea.

[passage omitted—Roslyakov, deputy chairman of Severodvinsk City Soviet, on a city ban on dangerous work at Severodvinsk; Petrushenko and Salnikov on need for Russian program for nuclear waste disposal; more archive footage of submarines at sea, noting that the ill-fated K-19 is still waiting at Polyarnyy to be dismantled]

[video shows extensive views of Severodvinsk Northern Machine Building and Zvezdochka Machine Building Enterprise facilities including spent fuel storage facility, submarine dismantling operations, closeups of moored submarines]

## NUCLEAR TESTING

### Ukraine Welcomes U.S., Russian Moratorium on Nuclear Testing

LD3007205693 Kiev Radio Ukraine World Service  
in Ukrainian 1900 GMT 30 Jul 93

[Text] Ukraine welcomes the decision by the two largest nuclear states, the Russian Federation and the United

States of America, on the extension of the validity of the moratorium on nuclear arms tests, the foreign political department of our state said in a statement on 30 July. The statement indicates that a refusal to carry out nuclear explosions will, undoubtedly, promote international peace and security. Thus, one of the most important ways of the military nuclear potential development and further improvement of nuclear weapons is actually being blocked, which enhances the process of so-called vertical non-proliferation of nuclear weapons.

Ukraine perceived with satisfaction the statement by the government of Great Britain on a positive attitude toward the issue of a complete ban on nuclear tests. These events testify to the seriousness of these countries' intentions to continue the process of nuclear disarmament. Ukraine hopes that its logic and consistent implementation will lead to a nuclear-free world.

### Anniversary of Limited Test Ban Treaty Noted

PM0908140393 Moscow ROSSIYSKAYA GAZETA  
in Russian 6 Aug 93 First Edition p 2

[Unattributed report under the rubric "Date": "No Nuclear Explosions Have Thundered in the Atmosphere for 30 Years Now"]

[Text] On 5 August 1963 the USSR, the United States, and Great Britain signed the Treaty Banning Nuclear Weapon Tests in the Atmosphere, Outer Space, and Under Water.

Known as the Moscow Treaty or the Limited Test Ban Treaty, it came into force 10 October of the same year. Today 117 states are party to it. It is of unlimited duration. The initiators of its elaboration and conclusion were nuclear scientists, who understood better than anyone the danger of the consequences of explosions for the environment.

It is well known that the first nuclear device in the history of mankind was exploded by the United States in a desert region of New Mexico 16 July 1945. As of today the five member countries of the "nuclear club" have carried out 2,061 nuclear tests: the United States has carried out 1,061, the USSR 715, Great Britain 43, 21 of them jointly with the United States at the U.S. test site in Nevada, France 188, and China 37. And 501 of these tests were carried out in the atmosphere and eight under water.

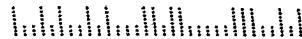
The Moscow Treaty did not stop the arms race, but it substantially limited the process of creating ever more lethal weapons. It made it impossible to carry out nuclear explosions in conditions as close as possible to combat conditions. Thanks to this treaty, the development of a nuclear war strategy and assessments of the efficacy of nuclear first-strike weapons and the survivability of nuclear retaliation forces began to move into the hypothetical sphere, which made them vague, and hence less realizable.

NTIS  
ATTN PROCESS 103  
5285 PORT ROYAL RD  
SPRINGFIELD VA

2

22161

BULK RATE  
U.S. POSTAGE  
PAID  
PERMIT NO. 352  
MERRIFIELD, VA.



This is a U.S. Government publication. Its contents in no way represent the policies, views, or attitudes of the U.S. Government. Users of this publication may cite FBIS or JPRS provided they do so in a manner clearly identifying them as the secondary source.

Foreign Broadcast Information Service (FBIS) and Joint Publications Research Service (JPRS) publications contain political, military, economic, environmental, and sociological news, commentary, and other information, as well as scientific and technical data and reports. All information has been obtained from foreign radio and television broadcasts, news agency transmissions, newspapers, books, and periodicals. Items generally are processed from the first or best available sources. It should not be inferred that they have been disseminated only in the medium, in the language, or to the area indicated. Items from foreign language sources are translated; those from English-language sources are transcribed. Except for excluding certain diacritics, FBIS renders personal names and place-names in accordance with the romanization systems approved for U.S. Government publications by the U.S. Board of Geographic Names.

Headlines, editorial reports, and material enclosed in brackets [ ] are supplied by FBIS/JPRS. Processing indicators such as [Text] or [Excerpts] in the first line of each item indicate how the information was processed from the original. Unfamiliar names rendered phonetically are enclosed in parentheses. Words or names preceded by a question mark and enclosed in parentheses were not clear from the original source but have been supplied as appropriate to the context. Other unattributed parenthetical notes within the body of an item originate with the source. Times within items are as given by the source. Passages in boldface or italics are as published.

#### SUBSCRIPTION/PROCUREMENT INFORMATION

The FBIS DAILY REPORT contains current news and information and is published Monday through Friday in eight volumes: China, East Europe, Central Eurasia, East Asia, Near East & South Asia, Sub-Saharan Africa, Latin America, and West Europe. Supplements to the DAILY REPORTs may also be available periodically and will be distributed to regular DAILY REPORT subscribers. JPRS publications, which include approximately 50 regional, worldwide, and topical reports, generally contain less time-sensitive information and are published periodically.

Current DAILY REPORTs and JPRS publications are listed in *Government Reports Announcements* issued semimonthly by the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, Virginia 22161 and the *Monthly Catalog of U.S. Government Publications* issued by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

The public may subscribe to either hardcover or microfiche versions of the DAILY REPORTs and JPRS publications through NTIS at the above address or by calling (703) 487-4630. Subscription rates will be

provided by NTIS upon request. Subscriptions are available outside the United States from NTIS or appointed foreign dealers. New subscribers should expect a 30-day delay in receipt of the first issue.

U.S. Government offices may obtain subscriptions to the DAILY REPORTs or JPRS publications (hardcover or microfiche) at no charge through their sponsoring organizations. For additional information or assistance, call FBIS, (202) 338-6735, or write to P.O. Box 2604, Washington, D.C. 20013. Department of Defense consumers are required to submit requests through appropriate command validation channels to DIA, RTS-2C, Washington, D.C. 20301. (Telephone: (202) 373-3771, Autovon: 243-3771.)

Back issues or single copies of the DAILY REPORTs and JPRS publications are not available. Both the DAILY REPORTs and the JPRS publications are on file for public reference at the Library of Congress and at many Federal Depository Libraries. Reference copies may also be seen at many public and university libraries throughout the United States.